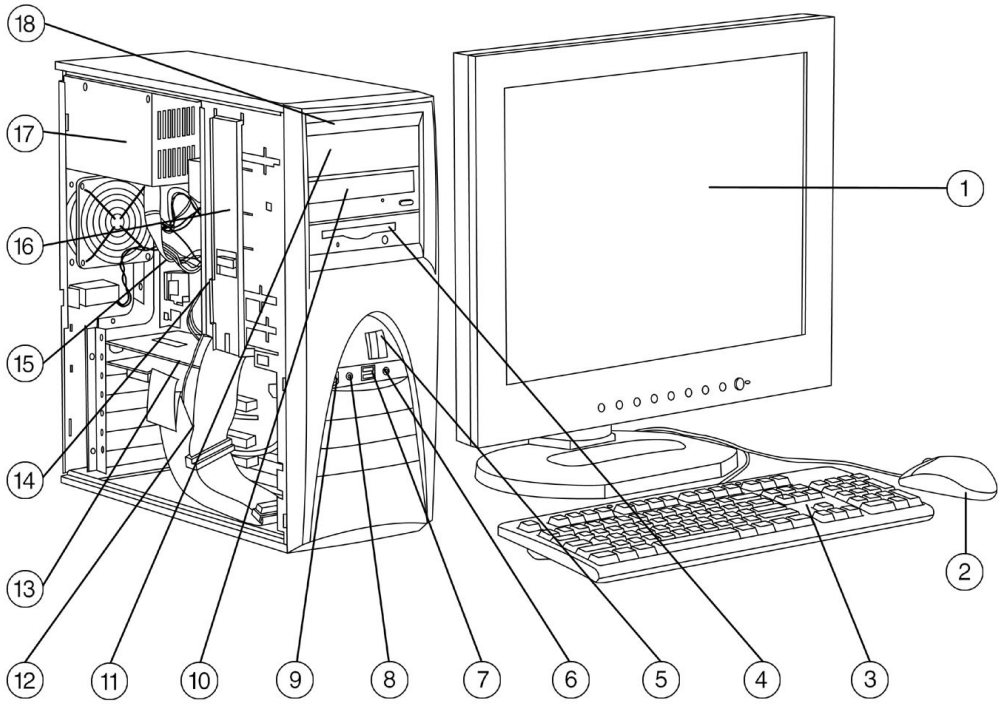
Overview



1. HP Monitor (Optional)
2. HP Scroll Mouse
3. Easy Access Keyboard
4. 1.44 MB Diskette Drive
5. On-Off Button
6. Microphone Port
7. USB 2D Ports (2)
8. Audio Port
9. IEEE 1394 Port
10. Optical Drive
11. 5.25-in Drive Bay (available
12. PCI Slots (5)
13. AGP 4x Slot
14. Memory Sockets (2)
15. Intel Pentium 4 Processor
16. Drivelock
17. 250-Watt Power Supply
18. Rotating Drive Cage

At A Glance

- Convertible mini-tower form factor
- Supports one Intel® Pentium 4 processor, up to 2.8 GHz
- 512 KB onboard L2 cache
- Intel 845E chipset with 533 MHz front side bus
- PC2100 DDR-266 DDR SDRAM, expandable to 2 GB
- Ultra320 SCSI hard drives (10,000 or 15,000 rpm) or Ultra ATA/100 hard drives (7200 rpm)
- Ultra ATA/100 controllers, optional Ultra160 SCSI controller
- Up to 438 GB of high-performance internal storage
- Choice of leadership graphics:
  NVIDIA Quadro NVS 200, NVIDIA Quadro NVS 400, NVIDIA Quadro2 EX, NVIDIA Quadro4 380 XGL, NVIDIA Quadro4 550 XGL, NVIDIA Quadro4 980 XGL
- Integrated 10/100 Mb Ethernet adapter
- Six total slots - five PCI and one AGP 4X
- Five bays (three external and two internal)
- CD-ROM, DVD-ROM, DVD+RW, CD-RW, or DVD/CD-RW combo drive
- Windows® XP Professional, Windows 2000 Professional, Red Hat 7.3 and HP support software pre-installed
- Protected by HP services, including a three-year limited warranty in many countries. Certain restrictions and exclusions apply. Three-year onsite labor not available in all countries.

Standard Features

Processor One of the following:	Intel Pentium 4 processor 2.4-GHz, 2.66-GHz, and 2.8-GHz (533-MHz front side bus)	
Cache Memory	512-KB integrated, full speed Level 2 cache per processor	
Memory One of the following:	Maximum	2 GB of PC2100 DDR-266
Network Controller	Integrated Intel LAN 10/100 Network Interface	
Expansion Slots	I/O (Total)	6/5 total slots available
	PCI - 32-bit/33 MHz	5/5 slots available
	AGP 4X	1/0 slot available
Expansion Bays	(Total/Available)	5 total/2 available
	Internal 3.5 inch	2 bays/1 available
	External 5.25 inch	2 external bays/1 available
Storage	Diskette Drive	1.44 MB
	Removable Media	CD-ROM, CD-RW, DVDROM, CD-RW/DVD-ROM combo, or DVD+RW/+R
	Hard Drive	40, 80, or 120-GB Ultra ATA (7200 rpm) 36, 72, or 146-GB Ultra320 SCSI (10K rpm) 18, 36, 72-GB Ultra320 SCSI (15K rpm) Ultra320 drives have Ultra160 performance with Ultra160 controller
Interfaces	Parallel	1 25-pin port (rear)
	USB 2.0	4 USB ports (2 front, 2 rear)
	Serial	2 9-pin connectors (rear)
	Ultra320 SCSI	1 with external connector (rear)
	Ultra ATA/100	2 connectors (internal)
	Keyboard	1 PS/2 keyboard port (rear)
	Pointing Device	1 PS/2 mouse port (rear)
	Network interface	1 RJ-45 connector (rear)
	Microphone Jack	1 (front)
	Headphone Jack	1 (front)
	Line-In Jack	1 (back)
	Line-Out Jack	1 (back)
	IEEE 1394 Firewire	Optional – 3 (1 front, 2 rear)

Standard Features

Graphics *One of the following:*	NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX NVIDIA Quadro4 380 XGL ATI FIRE GL 8800 NVIDIA Quadro4 980 XGL
Audio	AC97/16-bit stereo full-duplex
Operating System	Microsoft Windows XP Professional preinstall Microsoft® Windows 2000 Professional, service pack 2, preinstall Red Hat Linux 7.3 preinstalled
Manageability	System Software Manager Insight Management Agent Altiris Express Asset Control Alert on LAN (AoL) Wake on LAN (WoL) Fault Management Security Management Pre-Failure Warranty (hard drives and memory) **Remote Management** Remote Wakeup Remote ROM Flash Remote Security Remote Shut Down **Bios Features** Advanced Configuration and Power Interface (ACPI) 1.0b Advanced Power Management (APM) 1.2 Desktop Management Interface (DMI) 2.0 System Management (SM) Bios 2.3
Security	Diskette write and boot control Flash ROM lock Keyboard password Network server mode Parallel interface control Power-on password Serial interface control Setup password Cable lock provision
Power Supply	250 Watt, with Power Factor Correction
Service and Support	Protected by HP Services including a three-year, limited warranty with three-year parts coverage, three year, on-site service, and three-year labor (in many countries); 7 x 24 hardware technical phone support and on-line support through the Internet; Pre-Failure Warranty coverage of hard drives, memory, and processors. NOTE: Certain restrictions and exclusions apply. Consult the customer support center for details. Three-year, onsite and labor not available in all countries.

Standard Features Pre-Configured Global Models

xw4k/2.0/80/256/EXv	**Processor**	Intel Pentium 4 processor 2.0-GHz with 400-MHz front side bus
470047-279	**Cache Memory**	512-KB
	Memory	256-MB ECC DDR
	Optical Drive	Combo Drive CD-RW/DVD
	Hard Drive	80-GB Ultra ATA/100 EIDE (7,200 rpm)
	Graphics	NVIDIA Quadro2 EX
	Mouse	HP scroll mouse
	OS	Windows 2000 Professional

xw4x/2.0/40/256/XcL	**Processor**	Intel Pentium 4 processor 2.0-GHz with 400-MHz front side bus
470047-280	**Cache Memory**	512-KB
	Memory	256-MB ECC DDR
	Optical Drive	CD-ROM
	Hard Drive	40-GB Ultra ATA/100 EIDE (7,200 rpm)
	Graphics	Not included in base configuration - graphics card options are: NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX LP NVIDIA Quadro4 380 XGL ATI FIREGL 8800 NVIDIA Quadro4 980 XGL NOTE: Please see Part Numbers in After market options/Standalone accessories section.
	Mouse	HP scroll mouse
	OS	Windows XP Professional

xw4x/2.4F/40/512/Xv	**Processor**	Intel Pentium 4 processor 2.4-GHz with 533-MHz front side bus
470047-281	**Cache Memory**	512-KB
	Memory	512-MB ECC DDR; 2.1-GB/sec throughput
	Optical Drive	Combo CD-RW/DVD-ROM
	Hard Drive	40-GB UATA/100 7200 rpm
	Graphics	Not included in base configuration - graphics card options are: NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX LP NVIDIA Quadro4 380 XGL ATI FIREGL 8800 NVIDIA Quadro4 980 XGL NOTE: Please see Part Numbers in After market options/Standalone accessories section.
	Mouse	HP scroll mouse
	OS	Windows XP Professional

Standard Features Pre-Configured Global Models

xw4x/2.4F/36S/512/Xd	**Processor**	Intel Pentium 4 processor 2.4-GHz with 533-MHz front side bus
470047-282	**Cache Memory**	512-KB
	Memory	512-MB ECC DDR; 2.1GB/sec throughput
	Optical Drive	DVD-ROM
	Hard Drive	36-GB Ultra320 SCSI 10,000 rpm
	Graphics	Not included in base configuration – graphics card options are: NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX LP NVIDIA Quadro4 380 XGL ATI FIREGL 8800 NVIDIA Quadro4 980 XGL NOTE: Please see Part Numbers in After market options/Standalone accessories section.
	Mouse	HP scroll mouse
	OS	Windows XP Professional

xw4x/2.4F/80/256/XcL	**Processor**	Intel Pentium 4 processor 2.4-GHz with 533-MHz front side bus
470047-283	**Cache Memory**	512-KB
	Memory	256-MB ECC DDR
	Optical Drive	CD-ROM
	Hard Drive	80-GB Ultra ATA/100 EIDE (7,200 rpm)
	Graphics	Not included in base configuration – graphics card options are: NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX LP NVIDIA Quadro4 380 XGL ATI FIREGL 8800 NVIDIA Quadro4 980 XGL NOTE: Please see Part Numbers in After market options/Standalone accessories section.
	Mouse	HP scroll mouse
	OS	Windows XP Professional

xw4k/2.4F/36S/512/ XdL	**Processor**	Intel Pentium 4 processor 2.4-GHz with 533-MHz front side bus
	Cache Memory	512-KB
470047-284	**Memory**	512-MB ECC DDR; 2.1-GB/sec throughput
	Optical Drive	DVD-ROM
	Hard Drive	36-GB Ultra320 SCSI 10,000 rpm (Ultra160 controller)
	Graphics	Not included in base configuration - graphics card options are: NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX LP NVIDIA Quadro4 380 XGL ATI FIREGL 8800 NVIDIA Quadro4 980 XGL NOTE: Please see Part Numbers in After market options/Standalone accessories section.
	Mouse	HP scroll mouse
	OS	Windows 2000 Professional

Standard Features Pre-Configured Global Models

xw4x/2.4F/80/256/200v *470047-285*	**Processor**	Intel Pentium 4 processor 2.4-GHz with 533-MHz front side bus
	Cache Memory	512-KB
	Memory	256-MB ECC DDR
	Optical Drive	Combo Drive CD-RW/DVD
	Hard Drive	80-GB Ultra ATA/100 EIDE (7,200 rpm)
	Graphics	NVIDIA Quadro NVS 200
	Mouse	HP scroll mouse
	OS	Windows XP Professional
xw4x/2.4F/80/512/200vL *470047-286*	**Processor**	Intel Pentium 4 processor 2.4-GHz with 533-MHz front side bus
	Cache Memory	512-KB
	Memory	512-MB ECC DDR; 2.1-GB/sec throughput
	Optical Drive	Combo Drive CD-RW/DVD
	Hard Drive	80-GB Ultra ATA/100 EIDE (7,200 rpm)
	Graphics	NVIDIA Quadro NVS 200
	Mouse	HP scroll mouse
	OS	Windows XP Professional
xw4x/2.4F/36S/512/750rL *470047-287*	**Processor**	Intel Pentium 4 processor 2.4-GHz with 533-MHz front side bus
	Cache Memory	512-KB
	Memory	512-MB ECC DDR; 2.1-GB/sec throughput
	Optical Drive	CD-RW
	Hard Drive	36-GB Ultra320 SCSI 10,000 rpm (Ultra160 controller)
	Graphics	NVIDIA Quadro4 750 XGL
	Mouse	HP scroll mouse
	OS	Windows XP Professional
xw4x/2.66F/36S/512/Xd *470047-289*	**Processor**	Intel Pentium 4 processor 2.66-GHz with 533-MHz front side bus
	Cache Memory	512-KB
	Memory	512-MB ECC DDR; 2.1-GB/sec throughput
	Optical Drive	DVD-ROM
	Hard Drive	36-GB Ultra320 SCSI 10,000 rpm (Ultra160 controller)
	Graphics	Not included in base configuration - graphics card options are: NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX LP NVIDIA Quadro4 380 XGL ATI FIREGL 8800 NVIDIA Quadro4 980 XGL NOTE: Please see Part Numbers in After market options/Standalone accessories section.
	Mouse	HP scroll mouse
	OS	Windows XP Professional

Standard Features Pre-Configured Global Models

xw4k/2.66F/36S/512/XdL	**Processor**	Intel Pentium 4 processor 2.66-GHz with 533-MHz front side bus
	Cache Memory	512-KB
470047-290	**Memory**	512-MB ECC DDR; 2.1-GB/sec throughput
	Optical Drive	DVD-ROM
	Hard Drive	36-GB Ultra320 SCSI 10,000 rpm (Ultra160 controller)
	Graphics	Not included in base configuration - graphics card options are: NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX LP NVIDIA Quadro4 380 XGL ATI FIREGL 8800 NVIDIA Quadro4 980 XGL NOTE: Please see Part Numbers in After market options/Standalone accessories section.
	Mouse	HP scroll mouse
	OS	Windows 2000 Professional

xw4x/2.66F/36S/512/750v	**Processor**	Intel Pentium 4 processor 2.66-GHz with 533-MHz front side bus
	Cache Memory	512-KB
470047-292	**Memory**	512-MB ECC DDR; 2.1-GB/sec throughput
	Optical Drive	Combo Drive CD-RW/DVD
	Hard Drive	36-GB Ultra320 SCSI 10,000 rpm (Ultra160 controller)
	Graphics	NVIDIA Quadro4 750 XGL
	Mouse	HP scroll mouse
	OS	Windows XP Professional

xw4x/2.8F/80/512/Xv	**Processor**	Intel Pentium 4 processor 2.8-GHz with 533-MHz front side bus
470047-293	**Cache Memory**	512-KB
	Memory	512-MB ECC DDR; 2.1-GB/sec throughput
	Optical Drive	Combo CD-RW/DVD-ROM
	Hard Drive	80-GB UATA/100 7200 rpm
	Graphics	Not included in base configuration – graphics card options are: NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX LP NVIDIA Quadro4 380 XGL ATI FIREGL 8800 NVIDIA Quadro4 980 XGL NOTE: Please see Part Numbers in After market options/Standalone accessories section.
	Mouse	HP scroll mouse
	OS	Windows XP Professional

Standard Features Pre-Configured Global Models

xw4k/2.8F/80/512/Xv	**Processor**	Intel Pentium 4 processor 2.8-GHz with 533-MHz front side bus
470047-295	**Cache Memory**	512-KB
	Memory	512-MB ECC DDR; 2.1-GB/sec throughput
	Optical Drive	Combo Drive CD-RW/DVD
	Hard Drive	80-GB UATA/100 7200 rpm
	Graphics	Not included in base configuration – graphics card options are: NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX LP NVIDIA Quadro4 380 XGL ATI FIREGL 8800 NVIDIA Quadro4 980 XGL NOTE: Please see Part Numbers in After market options/Standalone accessories section.
	Mouse	HP scroll mouse
	OS	Windows 2000 Professional

xw4k/2.8F/36S/512/Xv	**Processor**	Intel Pentium 4 processor 2.8-GHz with 533-MHz front side bus
470047-296	**Cache Memory**	512-KB
	Memory	512-MB ECC DDR; 2.1-GB/sec throughput
	Optical Drive	Combo Drive CD-RW/DVD
	Hard Drive	36-GB Ultra320 SCSI 10,000 rpm (Ultra160 controller)
	Graphics	Not included in base configuration – graphics card options are: NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX LP NVIDIA Quadro4 380 XGL ATI FIREGL 8800 NVIDIA Quadro4 980 XGL NOTE: Please see Part Numbers in After market options/Standalone accessories section.
	Mouse	HP scroll mouse
	OS	Windows 2000 Professional

xw4LX/2.8F/36S/512/XcL	**Processor**	Intel Pentium 4 processor 2.8-GHz with 533-MHz front side bus
	Cache Memory	512-KB
English: *470059-774*	**Memory**	512-MB ECC DDR; 2.1-GB/sec throughput
French: *470059-724*	**Optical Drive**	CD-ROM
	Hard Drive	36-GB Ultra320 SCSI 10,000 rpm (Ultra160 controller)
	Graphics	No graphics included with this SKU - please purchase one of the following after market accessories in addition: NVIDIA Quadro NVS 200 NVIDIA Quadro NVS 400 NVIDIA Quadro2 EX LP NVIDIA Quadro4 380 XGL ATI FIREGL 8800 NVIDIA Quadro4 980 XGL NOTE: Please see Part Numbers in After market options/Standalone accessories section.
	Mouse	HP scroll mouse
	OS	Red Hat Linux 7.3

Configure to order options

HP workstation xw4000 Base System	When buying a basic system, you have many configuration options. The basic system includes: Convertible Mini-tower Chassis, System Board, Floppy Drive, Cable, etc.
Operating System	Windows XP Professional preloaded; incl. Win XP recovery CD Windows 2000 Professional SP2 preloaded; incl. Win 2000 recovery CD Red Hat Linux 7.3 preinstalled, preconfigured and supported
Processor	Intel Pentium 4 processor 2.4-GHz, 512-KB cache, 533-MHz front side bus Intel Pentium 4 processor 2.66-GHz, 512-KB cache, 533-MHz front side bus Intel Pentium 4 processor 2.8-GHz, 512-KB cache, 533-MHz front side bus
Graphic Card (Video Card)	No Video Card NVIDIA Quadro NVS 200 (AGP) NVIDIA Quadro NVS 400 (PCI) NVIDIA Quadro2 EX LP (AGP) NVIDIA Quadro4 380 XGL (AGP) ATI Fire GL 8800 (AGP NVIDIA Quadro4 980 XGL (AGP)
Memory (DDR-SDRAM)	128-MB (1X128-MB) PC2100 DDR-266 ECC 256-MB (1X256-MB) PC2100 DDR-266 ECC 512-MB (1X512-MB) PC2100 DDR-266 ECC 512-MB (2x256-MB) PC2100 DDR-266 ECC 1-GB (2x512-MB) PC2100 DDR-266 ECC 1-GB (1X1-GB) PC2100 DDR-266 ECC 1.5-GB (1x1-GB + 1x512-MB) PC2100 DDR-266 ECC 2-GB (2x1GB) PC2100 DDR-266 ECC
Monitors	HP L1825 Flat Panel Color Monitor (18-inch, Carbon/Silver) HP L1925 Flat Panel Color Monitor (19-inch, Carbon/Silver) HP L2025 Flat Panel Color Monitor (20-inch, Carbon/Silver) HP p930 Flat screen (19-inch, Carbon/Silver) HP p1130 Flat screen (21-inch, Carbon/Silver) NOTE: AssetControl monitor. AssetControl features are accessible with hp workstations featuring Intelligent Manageability.
Base system	Convertible Mini-tower Chassis, System Board, Floppy Drive, Cable, etc.

Configure to order options

Primary hard disks	40-GB Ultra ATA/100 EIDE (7,200 rpm) 80-GB Ultra ATA/100 EIDE (7,200 rpm) 120-GB Ultra ATA/100 EIDE (7,200 rpm) 36-GB Ultra320 SCSI (10,000 rpm) 73-GB Ultra320 SCSI (10,000 rpm) 146-GB Ultra320 SCSI (10,000 rpm) 18-GB Ultra320 SCSI (15,000 rpm) 36-GB Ultra320 SCSI (15,000 rpm) 73-GB Ultra320 SCSI (15,000 rpm)
Secondary hard disks	40-GB Ultra ATA/100 EIDE (7,200 rpm) 80-GB Ultra ATA/100 EIDE (7,200 rpm) 120-GB Ultra ATA/100 EIDE (7,200 rpm) 36-GB Ultra320 SCSI (10,000 rpm) 73-GB Ultra320 SCSI (10,000 rpm) 146-GB Ultra320 SCSI (10,000 rpm) 18-GB Ultra320 SCSI (15,000 rpm) 36-GB Ultra320 SCSI (15,000 rpm) 73-GB Ultra320 SCSI (15,000 rpm)
Controller Card	Adaptec 29160N single-channel Ultra160 SCSI controller
Primary removable media	HP 48X CD-ROM HP 48X Combo (with Roxio and WinDVD software) HP 48X/24X/48X CDRW Drive (with Roxio software) HP 16X DVD-ROM HP 4.7GB DVD+R/RW Drive – 300i
Secondary removable media	HP 48X CR-RW HP 16X DVD-ROM HP 48X/24X/48X CDRW Drive (with Roxio software) HP 4.7GB DVD+R/RW Drive – 300i
Keyboard	HP Easy Access Keyboard (PS/2)
Input devices	HP 3-Button Mouse (PS/2) HP Scroll Mouse (PS/2)
I/O PCI Cards and Other	IEEE 1394 Firewire Card USB 2.0 PCI Card Solenoid/Hood Lock Lucent V90 56K Modem PCI card

After market options/Standalone accessories

		Part #:
Memory (DDR-SDRAM unbuffered)	128-MB PC-2100 DDR-266 ECC	AA631A
	256-MB PC-2100 DDR-266 ECC	AA632A
	512-MB PC-2100 DDR-266 ECC	AA633A
	1-GB PC-2100 DDR-266 ECC	AA634A
Monitors	HP L2025 flat panel color monitor (21-inch, carbon/silver)	303486-003
	HP L1925 flat panel color monitor (19-inch, carbon/silver)	P9626A
	HP L1825 flat panel color monitor (18-inch, carbon/silver)	303102-003
	HP p930 flat screen CRT color monitor (19-inch, carbon/silver)	302268-003
	HP p1130 flat screen CRT color monitor (21-inch, carbon/silver)	302270-003
	NOTE: AssetControl features are accessible with HP workstations featuring Intelligent Manageability.	
Graphics	NVIDIA Quadro4 200 NVS (AGP)	AA603A
	NVIDIA Quadro4 200 NVS DVI Cables	AA604A
	NVIDIA Quadro4 400 NVS (PCI)	AA605A
	NVIDIA Quadro4 400 NVS DVI Cables	AA606A
	NVIDIA Quadro2 EX LP (AGP)	250066-B21
	NVIDIA Quadro4 380 XGL (AGP)	AA653A
	NVIDIA Quadro4 550 XGL (AGP)	290648-B21
	ATI Fire GL 8800 (AGP)	314650-B21
	NVIDIA Quadro4 980 XGL (AGP)	AA623A
Hard Drives	*Ultra320 SCSI Drives*	
	36 GB Ultra320 SCSI 10,000 rpm	AA612A
	73 GB Ultra320 SCSI 10,000 rpm	AA613A
	146 GB Ultra320 SCSI, 10,000 rpm	AA614A
	18 GB Ultra320 SCSI, 15,000 rpm	310506-B21
	36 GB Ultra320 SCSI, 15,000 rpm	AA616A
	73 GB Ultra320 SCSI, 15,000 rpm	AA617A
	Ultra ATA/100 Drives	
	40 GB ATA/100, 7,200 rpm	310498-B21
	80 GB ATA/100, 7,200 rpm	310499-B21
	120 GB ATA/100, 7,200 rpm	310500-B21
Storage Controllers	Adaptec 29160N Ultra160 Single Channel SCSI Controller (PCI)	AA610A
	Ultra320 Dual Channel SCSI Controller Card (PCI)	AA611A
	StorageWorks Smart Array Controller 5304/128	158939-B21
	StorageWorks Smart Array Controller 5302/64	124992-B21
	Cable, 3 part SCSI	AA832A

After market options/Standalone accessories

Backup Devices	Exabyte 33/66-GB VXA-1 IDE Tape Drive		237109-B22
	Exabyte 33/66-GB VXA-1 SCSI Tape Drive		237108-B22
	TR5 10/20-GB iTape Drive (IDE, carbon)		294243-B22
	Iomega ZIP 250-MB (internal, IDE, carbon)		294416-B22
Multimedia	HP 48X CD-ROM Drive (carbon)		310509-B21
	48X/24X/48X CD-RW Drive (carbon – Veritas software)		DE205A
	HP 48X Combo (with Roxio and WinDVD software)		DE206A
	HP 16X DVD Drive (carbon)		AA620A
	4.7GB DVD+R/RW Drive – 300i		AA851A
Communications	Broadcom NetXtreme 10/100/1000 Gigabit NIC		266997-B21
	Intel 10/100 S Management Adapter		212953-B21
	V90 56K PCI WIN Modem		239137-xxx
	V90 56K International Soft WIN Modem		259032-B24
Speakers	Labtec Spin-22 Carbon Speakers		246637-0xx
Input devices & other	Easy Access keyboard - carbon/silver (PS/2)		267145-xx5
	Easy Access keyboard - carbonite (PS/2)		DC167B
	Three button mouse-carbon (PS/2)		AA778A
	Scroll Mouse-Carbon (PS/2)		170299-B23
	Spaceball 4000 (carbon)		112138-B23
	Solenoid/Hood Lock		252076-B21
	Bracket HDD 3.5 to 5.25-WS		313039-B21
	USB optical mouse (carbon/silver)		265985-B21
	USB Optical scroll mouse (carbon)		DC172B
	Mercury wireless keyboard with wireless optical mouse		300403-xx8
Security	USB Fingerprint Identification	N/A	240238-B21
	USB SmartCard Keyboard	DC169A	267147-008
	Corvadis USB Enhanced SmartCard Reader	N/A	240154-B21
Rack kits	Fixed shelf kit		253449-B21
	Sliding Shelf Kit		234672-B21
	Depth Adjustable Rails		332558-B21

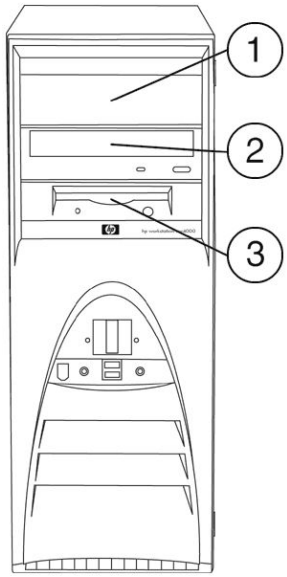
Memory

Standard Memory

This system supports PC-2100 266-MHz DDR ECC. The mainboard is based on the i845E chipset and has 2 DIMM slots (2.1-GB/s throughput). It can support a maximum of 2-GB of RAM when optional memory upgrades are included.

Following are memory options available from HP:	*Part #:*
128-MB upgrade kit PC-2100 DDR-266 ECC (unbuffered)	AA631A
256-MB upgrade kit PC-2100 DDR-266 ECC (unbuffered)	AA632A
512-MB upgrade kit PC-2100 DDR-266 ECC (unbuffered)	AA633A
1-GB upgrade kit PC-2100 DDR-266 ECC (unbuffered)	AA634A

Storage



Drive Support

	Quantity Supported	Position Supported	Controller
1.44-MB Diskette Drive	Up to 1	3	Integrated
CD-ROM Drive	Up to 1	1, 2	Integrated EIDE
DVD-ROM Drive	Up to 1	1, 2	Integrated EIDE
CD-RW Drive	Up to 1	1, 2	Integrated EIDE
DVD+ RW	Up to 1	1, 2	Integrated EIDE
Combo CD-RW/DVD-ROM	Up to 1	1, 2	Integrated EIDE

Storage

Hard Drives

Ultra320 SCSI Drives			
1-inch	Up to 3	1, 2, 4, 5	Optional Ultra160 SCSI Controller
36-GB Ultra320 SCSI (10K rpm) 72-GB Ultra320 SCSI (10K rpm) 146-GB Ultra320 SCSI (10K rpm) 18-GB Ultra320 SCSI (15K rpm) 36-GB Ultra320 SCSI (15K rpm) 73-GB Ultra320 SCSI (15K rpm)			
Ultra ATA Drives			
1-inch	Up to 2	1, 2, 4, 5	Integrated EIDE Controller
40-GB (7200 rpm) 80-GB (7200 rpm) 120-GB (7200 rpm)			

Maximum Storage Capacity

Internal	438-GB (SCSI) 240-GB (Ultra ATA)

System Unit	**Tower Dimensions** (HxWxD)	17.65 x 6.6 x 17.61 in (44.8 x 17 x 44.7 cm)	
	Weight (standard configuration)	26 lb (2 kg)	
	Power Supply	Input current	4.5 A @ 115 VAC
			3.0 A @ 230 VAC
		Line Frequency	47 to 63 Hz
		Maximum Rated Power	385-Watt input, 250-Watt output
	Temperature (Values are subject to change)	Operating	50° to 95° F (10° to 35° C)
		Non-operating	
	Humidity (non-condensing) (Values are subject to change)	Operating	20% to 80%
		Non-operating	10% to 90%
	Maximum Altitude (nonpressurized)	Operating	10,000 ft (3,048 m)
		Non-operating	30,000 ft (9,144 m)

HP Easy Access Keyboard	**Dimensions** (HxWxD)	18.3 x 6.3 x 1.4 in (46.48 x 16.0 x 3.56 cm)	
	Weight	Approximately 2 lb (0.9 kg)	
	Input Specifications	Operating Voltage	+ 5VDC ± 5%
		Power Consumption	50 mA maximum (with 3 LEDs on)
		System Interface	PS/2 mini-din connector
		ESD	CE level 4, 15 kV air discharge
		EMI-RFI	Conforms to FCC rules for a Class B computing device
		PC98	Functionally compliant
	Mechanical	Languages	30+ available
		Keycaps	Low-profile design
		Switch Actuation	55 g nominal peak force with tactile feedback
		Switch Life	20 million keystrokes (using Hasco modified tester)
		Switch Type	Contamination resistant membrane
		Key Leveling Mechanism	For all double wide and greater length keys
		Cable Length	6 ft (1.8 m)
		PC98-99	Mechanically compliant
		Acoustics	50 dBA maximum sound pressure level
	Environmental	Operating Temperature	50° to 122° F (10° to 50° C)
		Non-operating Temperature	-22° to 140° F (-30° to 60° C)
		Operating Humidity	10% to 90% (non condensing at ambient)
		Non-operating Humidity	20% to 80% (non condensing at ambient)
		Operating Shock	40 g, 6 surfaces
		Non-operating Shock	80 g, 6 surfaces
		Operating Vibration	2 g peak acceleration
		Non-operating Vibration	4 g peak acceleration

1.44-MB Diskette Drive	**Size**	3.5 in/8.89 cm	
	LED Indicators (front panel)	Green	
	Read/Write Capacity per Diskette (high/low)	1.44 MB/720 KB	
	Drive Height	One-third	
	Drive Rotation	300 rpm	
	Transfer Rate (high/low)	500/250 KB/s	
	Bytes/Sector	512	
	Sectors/Track (high/low)	18/9	
	Tracks/Side (high/low)	80/80	
	Access Times	Track-to-Track (high/low)	3/6 ms
		Average (high/low)	94/173 ms
		Settling Time	15 ms
		Latency Average	100 ms
	Cylinders (high/low)	80/80	
	Read/Write Heads	Two	

HP 3-Button Mouse	**Dimensions/Weight**	Height	1.42 in (3.6 cm)
		Length	4.17 in (10.7 cm)
		Width	2.87 in (7.4 cm)
		Weight	5.20 oz (150 g)
	Environmental	Operating Temperature	32° to 104° F (0° to 40° C)
		Non-operating Temperature	-4° to 140° F (-20° to 60° C)
		Operating Humidity	10% to 90% (non condensing at ambient)
	Mechanical	Resolution	400 ± 20% DPI
		Tracking Speed	10 in/s Maximum
		Switch Life	1,000,000 operations (using Hasco modified tester)
		Switch Type	Micro-switches
		Tracking Mechanism Life	155 miles (250 km) at average speed of 10 in/s
		Cable Length	6 ft (1.8 m)
		PC98-99	Mechanically compliant

HP 2-button Scroll Mouse	Scroll Wheel	8 mm	
	Maximum Rotation Speed	30 mm/s	
	Switch Type	Light force micro-switch	
	Switch Life	1 million operations	
	Mechanical Life	Minimum 200,000 revolutions	
	Environmental	Operating Temperature	50° to 122° F (10° to 50° C)
		Non-operating Temperature	-22° to 140° F (-30° to 60° C)
		Operating Humidity	10% to 90% (non condensing at ambient)
		Non-operating Humidity	20% to 80% (non condensing at ambient)
		Operating Shock	40 g, 6 surfaces
		Non-operating Shock	80 g, 6 surfaces
		Operating Vibration	2 g peak acceleration
		Non-operating Vibration	4 g peak acceleration
	Electrical	Operating Voltage	+ 5VDC ± 10%
		Power Consumption	15mA
		System Consumption	PS/2 mini-din connector
		ESD	CE level 4, 15 kV air discharge
		EMI-RFI	Conforms to FCC rules for a Class B computing device
		PC98	Functionally compliant
	Mechanical	Resolution	400 ± 20% DPI
		Tracking Speed	10 in/s Maximum
		Acceleration	100 in/s
		Switch Actuation	85 g nominal peak force
		Switch Life	1,000,000 operations (using Hasco modified tester)
		Cable Length	2 m
		PC98-99	Mechanically compliant
	Regulatory Approvals	UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BCIQ, C -Tick	

SpaceBall 4000	Features	Six degrees of freedom motion control through the X, Y, Z axis (pitch, roll, yaw)	
		Certified for leading CAD and DCC applications	
	Dimensions/Weight	Height	3.0 in/7.6 cm
		Length	8.4 in/21.3 cm
		Width	6.0 in/15.2 cm
		Weight	1.4 lb/0.64 kg
	Mechanical	Force range	0.5 - 8.2N (1.8 – 29.5 oz)
		Torque range	6.91 Nmm (0.085 – 0.33 oz-in)
		Resolution	10-bits
	Serial Specifications	Connector	9-pin D-subminiature receptacle (DB9S)
		Cable Length	Approx. 12.8 ft/3.9m captive
		Data rate	9600 bps
		Flow control	Xon/Xoff
	Regulatory Approvals	Compliant	UL, cUL, EN 950, EN 60950, CSA, FCC, CE Mark, TUV, CISPR 22, EN 50082, IEC 1000 4-2, IEC 1000-4-3, AS/NZS, VCCI, BSMI, C-Tick

Ultra320 SCSI Hard Drives	146 GB	Capacity	146,000 MB
		Height	1 in (2.5 cm)
		Width	3.5 in (8.89 cm)

	Interface	Ultra320 SCSI	
	Transfer rate synchronous (maximum)	320 MB/s	
	Seek time (typical reads, including settling)	Single track	0.55 ms
		Average	4.9 ms
		Full-stroke	9.2 ms
	Rotational speed	10,000 rpm	
	Logical blocks	289,749,488	
	Operating temperature	41° to 131° F (5° to 55° C)	
73 GB	**Capacity**	73,000 MB	
	Height	1 in (2.5 cm)	
	Width	3.5 in (8.89 cm)	
	Interface	Ultra320 SCSI	
	Transfer rate synchronous (maximum)	320 MB/s	
	Seek time (typical reads, including settling)	Single track	0.55 ms
		Average	4.9 ms
		Full-stroke	9.2 ms
	Rotational speed	10,000 rpm	
	Logical blocks	143,374,744	
	Operating temperature	41° to 131° F (5° to 55° C)	
73 GB	**Capacity**	73,000 MB	
	Height	1 in (2.5 cm)	
	Width	3.5 in (8.89 cm)	
	Interface	Ultra320 SCSI	
	Transfer rate synchronous (maximum)	320 MB/s	
	Seek time (typical reads, including settling)	Single track	0.4 ms
		Average	3.8 ms
		Full-stroke	6.7 ms
	Rotational speed	15,000 rpm	
	Logical blocks	143,337,744	
	Operating temperature	41° to 131° F (5° to 55° C)	
36 GB	**Capacity**	36,400 MB	
	Height	1 in (2.5 cm)	
	Width	3.5 in (8.89 cm)	
	Interface	Ultra320 SCSI	
	Transfer rate synchronous (maximum)	320 MB/s	
	Seek time (typical reads, including settling)	Single track	0.6 ms
		Average	4.5 ms
		Full-stroke	11.0 ms
	Rotational speed	10,000 rpm	
	Logical blocks	71,631,920	
	Operating temperature	41° to 131° F (5° to 55° C)	

36 GB	Capacity	36,400 MB	
	Height	1 in (2.5 cm)	
	Width	3.5 in (8.89 cm)	
	Interface	Ultra320 SCSI	
	Transfer rate synchronous (maximum)	320 MB/s	
	Seek time (typical reads, including settling)	Single track	0.4 ms
		Average	3.7 ms
		Full-stroke	7.0 ms
	Rotational speed	15,000 rpm	
	Logical blocks	71,132,000	
	Operating temperature	41° to 131° F (5° to 55° C)	
18 GB	Capacity	18,209 MB	
	Height	1 in (2.5 cm)	
	Width	3.5 in (8.89 cm)	
	Interface	Ultra320 SCSI	
	Transfer rate synchronous (maximum)	320 MB/s	
	Seek time (typical reads, including settling)	Single track	0.4 ms
		Average	3.7 ms
		Full-stroke	7.0 ms
	Rotational speed	15,000 rpm	
	Logical blocks	35,566,000	
	Operating temperature	41° to 131° F (5° to 55° C)	

Ultra ATA Hard Drives				
	120 GB	Capacity	120,000 MB	
		Height	1 in (2.54 cm)	
		Width	3.5 in (8.89 cm)	
		Interface	Ultra ATA/100	
		Synchronous Transfer Rate (Maximum)	100 MB/s	
		Seek time (typical reads, including settling)	Single track	1.2 ms
			Average	8.0 ms
			Full-stroke	18.0 ms
			Rotational speed	7200 rpm
		Logical blocks	234,441,648	
		Operating temperature	41° to 131° F (5° to 55° C)	
	80 GB	Capacity	80,000 MB	
		Height	1 in (2.54 cm)	
		Width	3.5 in (8.89 cm)	
		Interface	Ultra ATA/100	
		Synchronous Transfer Rate (Maximum)	100 MB/s	
		Seek time (typical reads, including settling)	Single track	1.2 ms
			Average	8.0 ms
			Full-stroke	18.0 ms
			Rotational speed	7200 rpm
		Logical blocks	157,278,240	
		Operating temperature	41° to 131° F (5° to 55° C)	
	40 GB	Capacity	40,000 MB	
		Height	1 in (2.54 cm)	
		Width	3.5 in (8.89 cm)	
		Interface	Ultra ATA/100	
		Synchronous Transfer Rate (Maximum)	100 MB/s	
		Seek time (typical reads, including settling)	Single track	1.2 ms
			Average	8 ms
			Full-stroke	18.0 ms
			Rotational speed	7200 rpm
		Logical blocks	78,165,360	
		Operating temperature	41° to 131° F (5° to 55° C)	

16/10/40+4/2.4/8x 4.7 GB DVD+ RW – 300i	Capacity	4.7 GB DVD disc /700 MB CD disc
	Dimensions (HxWxD)	1.66 x 5.83 x 7.74 in (4.23 x 14.6 x 19.8 cm)
	Weight	2.3 lb (1.06 kg)
	Interface	ATAPI/EIDE
	Mounting Orientation	Horizontal (80 or 120 mm discs) or vertical (120 mm discs only)
	Data Transfer Rates - Read	Digital audio extraction (minimum) —1,200 KB/s (8X) CD read — up to 6,000 KB/s (40X) DVD read — up to 10,800 KB/s (8X)
	Media and Formats -	CD formats: CD-DA (Red Book), CD-ROM (Modes 1 and 2 - Yellow Book), CD-ROM

Read	XA (Mode 2, Forms 1 and 2), CD-I (FMV), Photo CD (single and multi-session), Video CD, CD-Text, CD Extra **CD media**: stamped, CD-R, CD-RW **DVD formats**: DVD-ROM, DVD-Video (with application support) **DVD media**: stamped (single or dual layer, single sided), DVD+ RW, DVD+ R, DVD-R, DVD-RW	
Data Transfer Rates - Write	DVD+R write — 5,412 KB/s (4X) DVD+RW write or rewrite — 3,247 KB/s (2.4X) CD-R write — 600 KB/s (4X) CD-R write — 1200 KB/s (8X) CD-R write — 2,400 KB/s (16X) CD-RW write — 600 KB/s (4X) CD-RW write —1500 KB/s (10X)	
Media and Formats - Write	**CD formats**: CD-DA (Red Book), CD-ROM (Modes 1 and 2 - Yellow Book), CD-ROM XA (Mode 2, Forms 1 and 2), CD-I (FMV), Photo CD (single and multi-session), Video CD, CD-Text, CD Extra **CD media**: CD-R, CD-RW **DVD formats**: DVD-ROM, DVD-Video (with application support) **DVD media**: DVD+ RW, DVD+ R	
Write Methods	Disc-at-once, track-at-once, incremental fixed and variable packet, random access write (DVD+RW only), sequential write (DVD +R, +RW)	
Data Transfer Modes	ATA PIO mode 4—16.7-Mbps, ATA UltraDMA mode 2—33-Mbps (default)	
Access Times (typical)	DVD-ROM Single Layer Random	140 ms
	CD-ROM Random	120 ms
	CD-ROM Full stroke	200 ms
Start-up Time (typical)	<5 s	
Stop Time (typical)	<6 s	
Write Buffer Size	2 MB (minimum)	
Audio Output	Line-Out	0.75 VRMS
	Signal-to-Noise Ratio	75 dB
	Channel Separation	60 dB
Configuration Jumper Block	Master, slave, and cable select modes	
Operating Conditions	Temperature	32° to 122° F (0° to 50° C)
	Humidity	10% to 70% (non-condensing)
Approvals/ Environmental	UL 1950 (US and Canada), CE, FDA, FCC (B), TUV, C-TICK (B)	
Operating Systems Supported	Microsoft Windows XP Professional, Microsoft Windows 2000 SP3	
Supplied Software	Intervideo WInDVD 4.0: Play DVD movies; Roxio Easy CD Creator 5.3.4: Create or copy CDs and DVDs, including music and data CDs, and data DVDs; Sonic myDVD Video Suite 4.0: includes myDVD for DVD authoring and ArcSoft ShowBiz 1.3 for video title creation and editing; Dantz Retrospect Express 6.0: Back up systems to CD, DVD, or tape media.	

48X CD-ROM Drive	Disk	Applicable Disk	CD-ROM (Mode 1 and 2), CD-R/W, CD-R Photo CD (Single and Multi-session), Mixed Mode (Audio and Data combined), CDI Ready, CD-XA Ready, CD TEXT, CD EXTRA
		Capacity	540 MB (Mode 1, 12 cm) 650 MB (Mode 2, 12 cm)
		Rotational Speed	8750 maximum
		Diametre	4.7 in, 3.15 in/12 cm, 8 cm
		Centre Hole	0.6 in/1.52 cm diametre
		Thickness	0.05 in/0.13 cm
		Track Pitch	1.6 μm
	Block Size	Mode 1	2,048 bytes
		Mode 2	2,340, 2,336 bytes
		CD-DA	2,352 bytes
		CD-XA	2,328 bytes
	Interface	IDE	
	Access Times (typical)	Random	< 100 ms
		Full-Stroke	< 150 ms
	Audio Output Level	Line-Out	0.7 VRMS
	Data Transfer Rate	Sustained	150 KB/s (1X, using audio disc)
		Variable	3,000 to 7,200 KB/s
	Cache Buffer	128 KB minimum	
	Start-up Time (typical)	< 7 s	
	Stop Time	< 4 s	
	Operating Conditions	Temperature	41° to 113° F/5° to 45° C
		Humidity	10% to 80%
	Dimensions	(HxWxD, maximum)	1.7 x 5.9 x 8.19 in/4.29 x 15 x 20.8 cm
		Weight	2.65 lb/1.2 kg

48/24/48X CD-RW	Capacity	700 MB CD disc	
	Dimensions (HxWxD)	1.63 x 5.75 x 7.27 in (4.13 x 14.6 x 18.5 cm)	
	Weight	2.0 lb (0.9 kg)	
	Interface	ATAPI/EIDE	
	Mounting Orientation	Horizontal or vertical	
	Data Transfer Rates – Read	Digital audio extraction (minimum) —1,800 KB/s (12X) CD read — up to 7,200 KB/s (48X) DVD read — up to 21,600 KB/s (16X)	
	Media and Formats - Read	**Formats**: CD-DA, CD-ROM (Mode 1 and 2), CD-ROM XA (Mode 2, Form 1 and 2), Mixed Mode, CD-Plus, CD-Extra, CD-I FMV, Video CD, CD-Text, Photo CD (single and multisession) **Media**: stamped, CD-R, CD-RW	
	Data Transfer Rates - Write	CD-R write — 1200 KB/s (8X) CD-R write — 1800 KB/s (12X) CD-R write — 2400 KB/s (16X) CD-R write — 3000 KB/s (20X) to 6000 KB/s (40X) CD-R write — 7200 KB/s (48X) CD-RW write — 600 KB/s (4X) CD-RW write —1500 KB/s (10X) CD-RW write — 2400 KB/s (16X) CD-RW write —3600 KB/s (24X)	
	Media and Formats - Write	**Formats**: CD-DA, CD-ROM (Mode 1 and 2), CD-ROM XA (Mode 2, Form 1 and 2), Mixed Mode, CD-Plus, CD-Extra, CD-I FMV, Video CD, CD-Text **Media**: CD-R, CD-RW (including ultra-speed)	
	Write Methods	Disc-at-once, session-at-once,, track-at-once, incremental fixed and variable packet, multisession	
	Data Transfer Modes	PIO Mode 4 (16.6 MB/s); Multi-word DMA mode 2 (16.6 MB/s); UltraDMA Mode 2 (33.3 MB/s)	
	Access Times (typical reads, including settling)	CD-ROM Mode 1	100 ms
		Full Stroke CD	160 ms (seek)
	Start-up Time (typical)	<4 s (single session), <30 s (multisession)	
	Stop Time (typical)	<3 s	
	Write Buffer Size	2 MB	
	Audio Output	Line-Out	0.7 VRMS
		Signal-to-Noise Ratio	80 dB
		Channel Separation	70 dB
	Configuration Jumper Block	Master, slave, and cable select modes	
	Operating Conditions	Temperature	41° to 113° F (5° to 45° C)
		Humidity	10% to 80%
	Approvals/Environmental	MPC-3 compliant, multi-read requirements, UL 1950, ACA AS/NZS 3548, ANSI C63.4–1992, ATAPI Spec SFF-8020, ATA Spec X3T9.2, CB Bulletin No. 92A, CSA C22.2 No. 950-1995, C.I.S.P.R. Pub 22, DHHS/FDA, EMKO-TSE 07/94, TUV, EN60825-1	
	Operating Systems Supported	Microsoft Windows 2000, Windows XP	
	Supplied software	Roxio Easy CD Creator 5.3.4: Create or copy CDs and DVDs, including music and data CDs, and data DVDs; Dantz Retrospect Express 6.0: Back up systems to CD, DVD, or tape media.	

48/24/48+16X Combo CD-RW/DVD-ROM	Capacity	4.7 and 9.4 GB DVD disc/700 MB CD disc	
	Dimensions (HxWxD)	1.63 x 5.75 x 7.27 in (4.13 x 14.6 x 18.5 cm)	
	Weight	2.0 lb (0.9 kg)	
	Interface	ATAPI/EIDE	
	Mounting Orientation	Horizontal or vertical	
	Data Transfer Rates – Read	Digital audio extraction (minimum) —1,200 KB/s (8X) CD read — up to 7,200 KB/s (48X) DVD read — up to 21,600 KB/s (16X)	
	Media and Formats - Read	**CD Formats**: CD-DA, CD-ROM (Modes 1 and 2), CD-ROM XA (Mode 2, Form 1 and 2), Mixed mode, CD-Extra, CD-I FMV, Video CD, Photo CD (single and multi-session), CD-Text, CD-Plus; CD Media: stamped, CD-R; CD-RW **DVD Formats**: DVD-ROM, DVD-Video (with application support), DVD-R (version 1.0 and 2.0), DVD-RW (version 1.0 and 1.1), DVD-R multi-border **DVD Media**: stamped (single or dual layer, single sided), DVD+ RW, DVD+ R, DVD-R, DVD-RW	
	Data Transfer Rates - Write	CD-R write — 600 KB/s (4X) CD-R write — 1200 KB/s (8X) CD-R write — 1800 KB/s (12X) CD-R write — 2400 KB/s (16X) CD-R write — 3600 KB/s (24X) CD-R write — 4800 KB/s (32X) CD-R write — 6000 KB/s (40X) CD-R write — 7200 KB/s (48X) CD-RW write — 600 KB/s (4X) CD-RW write —1500 KB/s (10X) CD-RW write — 2400 KB/s (16X) CD-RW write —3600 KB/s (24X)	
	Media and Formats - Write	**CD Formats**: CD-DA, CD-ROM (Mode 1), CD-ROM XA (Mode 2, Form 1 and 2), Mixed mode, CD-Extra, CD-I FMV, Video CD, CD-Plus **CD Media**: CD-R; CD-RW	
	Write Methods	Disc-at-once, session-at-once,, track-at-once, incremental fixed and variable packet, multisession	
	Data Transfer Modes	PIO Mode 4 (16.6 MB/s); Multi-word DMA mode 2 (16.6 MB/s); UltraDMA Mode 2 (33.3 MB/s)	
	Access Times (typical reads, including settling)	DVD-ROM Single Layer Random	120 ms
		CD-ROM Mode 1	110 ms
		Full Stroke DVD	210 ms
		Full Stroke CD	160 ms
	Start-up Time (typical)	<4 seconds (single session), <30 seconds (multisession)	
	Stop Time (typical)	4 s	
	Write Buffer Size	2 MB (minimum)	
	Audio Output	Line-Out	0.7 VRMS
		Signal-to-Noise Ratio	74 dB
		Channel Separation	65 dB
	Configuration Jumper Block	Master, slave, and cable select modes	
	Operating Conditions	Temperature	41° to 122° F (5° to 50° C)
		Humidity	10% to 85%

16X/40X DVD-ROM Drive with + R Read Support	Height	5.25-in, half-height
	Interface Type	ATAPI
	Dimensions– External,	5.88 x 1.71 in (14.94 x 4.34 cm)

Excluding Bezel (W x H)		
Disc Diameter	12 cm, 8 cm	
Disc Thickness	1.2 mm	
Track Pitch	1.6 μm (CD), 0.74 μm (DVD)	
Disc Center Hole Diameter	15 mm	
Disc Formats	DVD-ROM (single and dual layer); DVD-video; DVD-R version 1.0 and 2.0; DVD-RW version 1.0 and 1.1; DVD-R multi-border; DVD+ RW; DVD+ R; CD-ROM Mode 1 and 2; CD-DA; CD-ROM XA Mode 2, Form 1 and 2; CD-extra; CD-text; CD-I Mode 2, Form 1 and 2; CD-I ready; video CD, CD-bridge; PhotoCD (single and multi-session); CD-R; CD-RW	
Disc Capacity	**DVD-ROM**	4.7 GB (DVD-5), 8.54 GB (DVD-9), 9.4 GB (DVD-10), 3.95 GB (DVD-R version 1.0), 4.7 GB (DVD-R version 2.0), 4.7 GB (DVD-RW version 1.0 and 1.1), 4.7 GB (DVD+RW), 4.7G (DVD+R)
	CD-ROM	540-MB (Mode 1, 12 cm), 640-MB (Mode 2, 12 cm), 700-MB (80 minimum CD-R and CD-RW), 180-MB (8 cm)
Block Size (bytes)	DVD-ROM – 2048; CD-ROM Mode 0 – 2352; CD-ROM Mode 1 – 2352, 2340, 2336, 2048; CD-ROM Mode 2 – 2352, 2340, 2336, 2048	
Access Times (typical reads, including settling)	DVD-ROM Single Layer	< 120 ms
	CD-ROM Mode 1	< 90 ms
	Full Stroke DVD	< 240 ms (seek)
	Full Stroke CD	< 160 ms (seek)
Data Transfer Rates	2600 – 6000 KB/s (40X CAV CD-ROM mode)	
	8100 – 21,600 KB/s (16X CAV DVD-ROM mode)	
Data Transfer Modes	PIO Mode 4 (16.6-MB/s); Multi-word DMA mode 2 (16.6-MB/s); UltraDMA Mode 3 (44.4-MB/s)	
Power	Source	Four-pin, DC power receptacle
	DC Power Requirement	5 VDC ± 5% – 100 mV ripple p-p
		12 VDC ± 5% – 200 mV ripple p-p
	DC Current	5 VDC – <800 mA typical, < 1000 mA maximum
		12 VDC – < 870 mA typical
Audio Output Level	0.7 Vrms (typical)	
Configuration Jumper Block	Master, slave, and cable select modes	
Data Interface Connector	40-pin, shrouded and keyed, flat ribbon	
Environmental (all conditions non-condensing)	**Temperature** (operating)	41° to 122° F (5° to 50° C)
	Relative Humidity (operating)	10% to 85%
	Maximum Wet Bulb Temperature (operating)	86° F (30° C)
Certifications, Approvals	MMC II support, multi-read certification, Microsoft WHQL certification, ACA AS/NZS 3548 class B, CNS 13438, C.I.S.P.R. Pub 22, TUV or VDE EN60950, EN 55022, EN55024, SEMKO, NEMKO, DEMKO, FIMKO, EN 60825-1, UL 60950, and CSA C22.2 60950-2000.	
Operating Systems Supported	Microsoft Windows NT, Microsoft Windows 2000, and Microsoft Windows XP.	

Integrated Intel PRO/100 + Management Adapter	Network Interface	10Base-T or 100Base-TX	
	Expansion Bus Architecture	PCI 2.2	
	Network Transfer Rate	10Base-T (Half-Duplex)	10-Mb/s
		10Base-T (Full-Duplex)	20-Mb/s
		100Base-TX (Half-Duplex)	100-Mb/s
		100Base-TX (Full-Duplex)	200-Mb/s
	Connectors	RJ-45	
	Standards Compliance	IEEE 802.2 IEEE 802.3	
	I/O Address	Auto-configured	
	Remote Wakeup	Yes	
	Operating Temperature	32° to 131° F (-0° to 55° C)	
	Operating Humidity (non-condensing)	85% at 131° F (55° C)	
	Operating Altitude	10,000 ft (3,048 m)	
	Communication Processor	Intel 82559	
	OS Driver Support	Windows NT 4.0	NDIS 3.0, 4.0 Compliant
		Windows 95, 98, 2000, XP Pro	NDIS 3.0, 4.0, 5.0 Compliant
		Novell NetWare Server v. 3.x, 4.x and 5.0	ODI Compliant
		SunSoft Solaris	Not supported
		SCO UnixWare®, OpenDesktop, OpenServer	Supported

Broadcom NetXtreme Based 10/100/1000 Management Gb Adapter	Network Interface	10Base-T or 100Base-TX	
	Expansion Bus Architecture	PCI 2.2	
	Network Transfer Rate	10Base-T (Half-Duplex)	10-Mb/s
		10Base-T (Full-Duplex)	20-Mb/s
		100Base-TX (Half-Duplex)	100-Mb/s
		100Base-TX (Full-Duplex)	200-Mb/s
		1000Base-T (Full-Duplex)	1000-Mb/s
		1000Base-T (Full-Duplex)	2000-Mb/s
	Connectors	RJ-45	
	Standards Compliance	IEEE 802.3, IEEE802.3u, IEEE802.3ab	
	Hardware certifications	FCC, B, CE, TUV- cTUVus Mark Canada and United States, TUV- GS Mark for European Union	
	I/O Address	Auto-configured	
	Remote Wakeup	Yes	
	Management capabilities	ACPI, WOL and DMI 2.0, PXE 2.0, WfM 2.0, Broadcom mgmt utility	
	Operating Temperature	32° to 131° F (-0° to 55° C)	
	Operating Humidity (non-condensing)	85% at 131° F (55° C)	
	Dimensions	4.721 x 2.0 x 0.08 in (12.02 x 5.09 x 1.9 cm)	
	Communication Processor	Broadcom 5702 PCI LAN Controller	
	Memory	Integrated 96Kb frame buffer memory	
	OS Driver Support	Windows NT 4.0	NDIS 3.0, 4.0 Compliant
		Windows 95, 98, 2000, XP Pro	NDIS 3.0, 4.0, 5.0 Compliant
		Linux 2.2, 2.4	

Lucent V.90 56K PIC Win Modem	Dimensions (L X H)	Complies with PCI low profile specifications—6.7 x 2.3 in (17.0 x 5.8 cm), supports high- and low-profile brackets
	Data Transmission	V.90/K56flex technology speeds: 56,000 Kbps maximum downstream data, controllerless NOTE: 56 Kbps technology refers to download speeds only and requires compatible modems at server sites. Other conditions may limit modem speed. FCC limitations allow a maximum of 53 Kbps during download transmissions.
	Data Speeds	(Upload only) 33,600/31,200/28,800/26,400/21,600/19,200/16,800/ 14,400/12,000/9,600/7,200/4,800/2,400/1,200/300
	Data Standards	ITU V.90, ITU-T, V.34bis, V.22bis, V.22bis, V.21, V.23, Bell 212A, and Bell 103
	Fax Speeds	14,400/12,000/9,600/7,200/4,800/2,400/1,200/300 b/s
	Fax Mode Capabilities	Group3 FAX, V. 17, V.29, V.27ter, and V.21 Channel 2, Class 1
	Error Correction and Data Compression	V.44 (software upgradeable), 4.2bis, V.42 and MNP2-5
	Power Management	APM and ACPI states D0, D1, D2, and D3; meets PCI 2.2 requirements and PC'99 requirements
	Upgradeability	Software driver upgradeable for v.92 and future enhancements
	Video	ITU-T V.80 video ready interface
	Other	TIA/EIA 602 standard AT command set
		Integrated DTE interface with speeds of up to 115.2 Kbps, parallel 16550a UART-compatible interface
		Optional ring wakeup signal
	Operating Temperature	32° to 158° F (0° to 70° C)
	Operating Humidity	20% to 90%, non-condensing
	Power	Requires a 3.3-V auxiliary power rail on PCI bus
		Uses only one PCI load (i.e., one grant/request pair), one shared IRQ, one electrical load
	Chipset	Agere Systems 1648C (Mars 3.2)—Integrated PCI interface with 5-V tolerant buffers and CardBus support
	Connection	Dual, parallel RJ-11 support with auxiliary Tip/Ring connector
	Other Features	Digital line protection, call progress monitoring via on-board piezo device, transformer-based DAA design, support for high profile and low profile brackets, PnP ID supports via external EEPROM
	Safety	UL recognized to UL 1950, 3rd edition (U.S. and Canada); IEC 950 (TUV, NEMKO, DEMKO, SEMKO); CE Mark, EC 950 (TUV, NEMKO, DEMKO, SEMKO, CE mark
	EMC	FCC Part 15, IC ES003, EN 55022, 3rd edition, EN 55024, annex A, EN 61000-4-6, EN 61000-4-8
	Telecom	FCC Part 68, IC-CS-03 (Canada); Worldwide PTT approvals
	Health	Bare PCB material compliant to 94V-0 or better (marked as such), Microsoft Windows Me health compliant
	Other	PC'99 compliant, PCI version 2.2, WHQL approved; support for ACPI revision 1.1
	Kit Contents	Lucent V.90 56-K PCI Win Modem, brackets/screws, Compaq installation guide

NVIDIA Quadro NVS 200 Graphics Card	Form Factor	Low profile
	Graphics Controller	Integrated Quadro4 2D/3D 128-bit graphics processor unit (GPU)
	Bus Type	AGP 4x
	RAMDAC	Dual 350 MHz
	Memory	64 MB 166MHz 4 M x 16 SDR 6ns unified frame buffer
	Connectors	Single LFH-60
	Dimensions	low-profile form factor
	Multi-monitor support	Dual monitors with NVIDIA's nView
	nView Hardware Architecture	Dual 350MHz RAMDACs Integrated TMDS Digital Vibrance Control (DVC) 32-bit color 2048 x 1536 @ 60 Hz maximum resolution 2D rendering engine optimized for 32-, 24-, 16-, 15-, and 8-bpp modes Unified driver architecture (UDA) provides easy installation and manageability
	High definition video processor	Full-screen, full-frame video playback of HDTV and DVD content DVD-ready motion compensation for MPEG-2 Independent hardware color controls for video overlay Hardware color-space conversion (YUV 4:2:2 and 4:2:0) IDCT motion compensation 5-tap horizontal by 3-tap vertical filtering 8:1 up/down scaling
	Supported graphics APIs	Fully compliant with OpenGL 1.3 and DirectX 8.1
	Available graphics drivers	Microsoft Windows XP and Microsoft Windows 2000, Linux See: http://www.hp.com/workstations/support

NVIDIA Quadro NVS 200 display resolutions & refresh rates

	Single CRT display	
Resolution	Maximum Refresh Rate	Bits per Pixel
640 x 480	120 Hz	8, 16, 24
800 x 600	120 Hz	8, 16, 24
1024 x 768	120 Hz	8, 16, 24
1152 x 864	120 Hz	8, 16, 24
1280 x 1024	120 Hz	8, 16, 24
1600 x 1200	100 Hz	8, 16
1600 x 1200	85 Hz	8, 16, 24
1920 x 1080	100 Hz	8, 16
1920 x 1080	75 Hz	8, 16, 24
1920 x 1200	85 Hz	8, 16
1920 x 1200	70 Hz	8, 16, 24
1920 x 1440	75Hz	8, 16
1920 x 1440	60Hz	8, 16, 24
2048 x 1536	60Hz	8, 16

NVIDIA Quadro NVS 400 Graphics Card	Form Factor	ATX
	Graphics Controller	Integrated Quadro4 2D/3D 128-bit graphics processor unit (GPU)
	Bus Type	PCI
	RAMDAC	Dual 350 MHz
	Memory	64 MB 220 MHz, 4mx 32 DDR per GPU, 32 MB per GPU unified frame buffer
	Connectors	Dual LFH-60
	Dimensions	4.2 x 8 in/10.67 x 20.32 cm
	Multi-monitor support	1 to 4 displays with nView – with two cards (1 PCI per card), up to 8 monitors can be driven
	nView Hardware Architecture	32-bit color 2048x1536 @ 75Hz maximum resolution Dual 350MHz RAMDACs Integrated TMDS Digital Vibrance Control (DVC) High-performance 2D rendering engine Optimized for 32-, 24-, 16-, 15- and 8-bpp modes
	High-definition video processor (HDVP)	Full-screen, full-frame video playback of HDTV and DVD content DVD-ready motion compensation for MPEG-2 Independent hardware color controls for video overlay Hardware color-space conversion (YUV 4:2:2 and 4:2:0) IDCT Motion compensation 5-tap horizontal by 3-tap vertical filtering 8:1 up/down scaling
	Supported graphics APIs	Fully compliant with OpenGL 1.3 and DirectX 8.1
	Available graphics drivers	Microsoft Windows XP and Microsoft Windows 2000, Linux See: http://www.hp.com/workstations/support

NVIDIA Quadro NVS 400 display resolutions & refresh rates

Single CRT display		
Resolution	Maximum Refresh Rate	Bits per Pixel
640 x 480	120 Hz	8, 16, 24
800 x 600	120 Hz	8, 16, 24
1024 x 768	120 Hz	8, 16, 24
1152 x 864	120 Hz	8, 16, 24
1280 x 1024	120 Hz	8, 16, 24
1600 x 1200	100 Hz	8, 16
1600 x 1200	85 Hz	8, 16, 24
1920 x 1080	100 Hz	8, 16
1920 x 1080	75 Hz	8, 16, 24
1920 x 1200	85 Hz	8, 16
1920 x 1200	70 Hz	8, 16, 24
1920 x 1440	75Hz	8, 16
1920 x 1440	60Hz	8, 16, 24
2048 x 1536	60Hz	8, 16

NVIDIA Quadro2 EX Graphics Card	Form Factor	LP
	Graphics Controller	NVIDIA NV11GL GPU
	Bus Type	AGP 2x/4x Version 2.0 compliant
	RAMDAC	350MHz
	Memory	32MB SDR SDRAM unified frame buffer, Z-buffer and Texture storage
	Connectors	DB-15 analog monitor output
	Dimensions (LxWxH)	Single short form factor AGP Low Profile card. 6.5 x 2.5x 0.6/16.51 x 6.35 x 1.25 cm
	Multi-monitor support	
	Additional product features	32MB SDR SDRAM unified frame buffer, Z-buffer and Texture storage VESA 3 (flash ROM) BIOS 24-bit Z, 8-bit stored alpha and 8-bit Stencil planes Compliant with Microsoft/Intel PC2001 Workstation requirements Video Timings compliant with VESA DMT 1.0 and VESA GTF 1.0 specifications DDC2B+ Monitor support on all OS platforms ACPI Version 1.0b Power Management support (all modes)
	AGP 2x/4x Version 2.0 compliant including	Sideband Addressing AGP Texturing (Execute Mode) Fast writes support
	NVIDIA NV11GL GPU featuring:	175 MHz engine clock rate 128-bit external frame buffer interface running at a clock rate of 166 MHz VGA controller 2D Engine with 128-bit datapath processing multiple pixels per clock Integrated transform and lighting engines NVIDIA Shading Rasterizer enabling real-time per-pixel effects Cube environment mapping Microsoft DirectX and SCTC Texture compression High performance 2D rendering engine High-Definition Video Processor for full-screen, full-frame DVD playback
	Supported graphics APIs	OpenGL 1.2 and below DirectX 7 and below
	Available graphics drivers	Windows2000, Windows XP, Linux See: http://www.hp.com/workstations/support

NVIDIA Quadro2 EX display resolutions & refresh rates

	Single CRT display	
Resolution	Maximum Refresh Rate	Bits per Pixel
640x480	240Hz	8, 16, 24/8
800x600	240Hz	8, 16, 24/8
1024x768	200Hz	8, 16, 24/8
1152x864	170Hz	8, 16, 24/8
1280x1024	150Hz	8, 16, 24/8
1600x900	120Hz	8, 16, 24/8
1600x1200	100Hz	8, 16, 24/8
1600x1280	127Hz	8, 16, 24/8
1920x1080	85Hz	8, 16, 24/8
1920x1200	85Hz	8, 16, 24/8
1920x1440	85Hz	8, 16
1920x1440	75Hz	24/8
2048x1536	75Hz	8, 16
2048x1536	60Hz	24/8

NVIDIA Quadro4 380 XGL Graphics Card

Form Factor	ATX
Graphics Controller	NVIDIA NV18GL GPU
Bus Type	AGP 8x Version 3.0 compliant AGP 4x/2x Version 2.0 compliant
Memory	64MB DDR SDRAM unified frame buffer, Z-buffer and Texture storage
RAMDAC	Dual 350MHz integrated
Connectors	VGA DB-15 and DVI-I analog/digital monitor outputs, 4-pin mini DIN providing TV output
Dimensions	AGP full height ATX card. 4.25" x 6.875"
Multi-monitor support	Dual monitor

Additional product features	• AGP 8x Version 3.0 compliant and 2x/4x Version 2.0 compliant including
	  ○ Sideband Addressing
	  ○ AGP Texturing (Execute Mode)
	  ○ Fast writes support
	• 64 MB DDR SDRAM unified frame buffer, Z-buffer and Texture storage
	• 128 KB BIOS 3.3V Flash ROM reprogrammable by SW
	• NV18GL GPU featuring:
	  ○ 275 MHz engine clock rate
	  ○ 250 MHz memory clock rate
	  ○ 128-bit memory interface
	  ○ VGA controller
	  ○ Dual integrated display controllers supporting up to 1920x1440 @ 85 Hz and 2048x1536 @ 75 Hz on both displays
	  ○ 4 parallel pixel pipelines
	  ○ 2 parallel geometry engines
	  ○ nfiniteFX II programmable vertex shader technology and NVIDIA OpenGL extensions
	  ○ Full hardware support for NVIDIA Cg shader programming language
	• Hardware Overlay Planes
	• Hardware two-sided lighting
	• Hardware accelerated antialiased points and lines
	• TV Output
	• Diamond exit rule line rasterization for improved line quality
	• 3D Texture support
	• Occlusion Culling
	• Compliant with Microsoft/Intel PC2001 Workstation requirements
	• Video Timings compliant with VESA DMT 1.0 and VESA GTF 1.0 specifications
	• DDC2B+ Monitor support for Windows 2000 and Windows XP
	• ACPI Version 1.0b Power Management support (all modes)

Supported graphics APIs	OpenGL 1.3 (and OpenGL 2.0 when available) ICD with immediate mode support for all OGL primitive types DirectX 8 and above
Available graphics drivers	HP-tested Windows 2000, HP-tested Windows XP, HP-tested Linux (1st Calendar Quarter 2003) HP qualified drivers may be preloaded or available from the HP support Web site: http://www.hp.com/workstations/support

NVIDIA Quadro4 380 XGL Graphics Card display resolutions & refresh rates

Resolution	Monitor 1, 2 Analog/Digital Maximum Refresh Rate	Bits per Pixel
640x480	240Hz/240Hz	8, 16, 24,32
800x600	240Hz/200Hz	8, 16, 24,32
1024x768	170Hz/140Hz	8, 16, 24,32
1152x864	170Hz/100Hz	8, 16, 24,32
1280x720	150Hz/120Hz	8, 16, 24,32
1280x960	150Hz/85Hz	8, 16, 24,32
1280x1024	150Hz/75Hz	8, 16, 24,32
1600x900	120Hz/75Hz/ NoDigitalDisplaySupport (unbold)	8, 16, 24,32
1600x1024	100Hz/72Hz/ NoDigitalDisplaySupport	8, 16, 24,32
1600x1200	120Hz/60Hz/ NoDigitalDisplaySupport	8, 16
1600x1200	100Hz/60Hz/ NoDigitalDisplaySupport	24,32
1920x1080	100Hz/ NoDigitalDisplaySupport	8, 16
1920x1080	85Hz/ NoDigitalDisplaySupport	24,32
1920x1200	100Hz/ NoDigitalDisplaySupport	8, 16
1920x1200	85Hz/ NoDigitalDisplaySupport	24,32
1920x1440	85Hz/ NoDigitalDisplaySupport	8, 16
1920x1440	75Hz/ NoDigitalDisplaySupport	24,32
2048x1536	75Hz/ NoDigitalDisplaySupport	8, 16

NVIDIA Quadro4 550 XGL Graphics Card

Form Factor	ATX
Graphics Controller	Integrated Quadro4 Pro 2D/3D 128-bit graphics processor unit (GPU)
Bus Type	AGP 4X
RAMDAC	350 MHz
Memory	64 MB 200 MHz 4Mx 32 DDR SDRAM
Connectors	1 LFH-60
Dimensions	Low-profile
Multi-monitor support	Dual - dual-analog or dual-digital
Additional product features	• Accelerates OpenGL and DirectX professional applications • Supports 64 MB of DDR unified graphics memory • Uses memory at peak efficiency by dynamically allocating it among graphics subsystems, increasing performance • Features hardware overlay planes and hardware antialiased lines • Offers two-sided lighting • Boasts full-scene antialiasing • Provides second-generation occlusion culling • Delivers 2048 x 1536 resolution per display
Supported graphics APIs	OpenGL 1.3 DirectX 8
Available graphics drivers	HP-tested Windows 2000 HP-tested Windows XP HP qualified drivers may be preloaded or available from the HP support Web site: http://www.hp.com/workstations/support

NVIDIA Quadro4 550 XGL display resolutions & refresh rates

Single CRT display

Resolution	Maximum Refresh Rate	Bits per Pixel
640 x 480	120 Hz	8, 16, 24
800 x 600	120 Hz	8, 16, 24
1024 x 768	120 Hz	8, 16, 24
1152 x 864	120 Hz	8, 16, 24
1280 x 1024	120 Hz	8, 16, 24
1600 x 1200	100 Hz	8, 16
1600 x 1200	85 Hz	8, 16, 24
1920 x 1080	100 Hz	8, 16
1920 x 1080	75 Hz	8, 16, 24
1920 x 1200	85 Hz	8, 16
1920 x 1200	70 Hz	8, 16, 24
1920 x 1440	75 Hz	8, 16
1920 x 1440	60 Hz	8, 16, 24
2048 x 1536	60 Hz	8, 16

ATI FIR GL 8800 Graphics Card	Form Factor	ATX
	Graphics Controller	ATI Radeon 8800 GPU
	Bus Type	AGP 1x/2x/4x Version 2.0 compliant
	RAMDAC	400MHz/30-bit
	Memory	128MB DDR SGRAM unified frame buffer, Z-buffer and Texture storage
	Connectors	DB-15 analog and DVI-I analog/digital monitor outputs
	Dimensions	Single short form factor AGP/ATX card. 6.88 x 4.25 in/17.48 x 10.8 cm
	Multi-monitor support	Dual Screen output for resolutions up to 2x1600x1200x32 bit
	Additional product features	128 MB DDR SGRAM unified frame buffer, Z-buffer and Texture storage 64 KB BIOS Serial Flash ROM, reprogrammable by SW, 3.3V only, no Jumpers 2D and 3D acceleration provided for 16-bit and 32-bit RGB? modes Hardware cursor with full color alpha channel (64x64x32bpp) 24-bit Z, 8-bit stored alpha and 8-bit Stencil planes Bus mastering support for 2D/3D display lists and local memory vertex list execution Hardware lighting support for up to 8 lights Cubic Environment Mapping and 3D Texture support Full Scene Anti-Aliasing (FSAA) support with multisampling up to 6x Video Engine supports YCrCb (4:2:2, 4:1:0, 4:2:0) conversion Video scaling and up to 8x4 tap filtering supported for all YUV and RGB16/32 formats Dual Screen output for resolutions up to 2x1600x1200x32 bit Per window double buffering on all screen resolutions Compliant with Microsoft/Intel PC2001 Workstation requirements Video Timings compliant with VESA DMT 1.0 and VESA GTF 1.0 specifications DDC2B+ Monitor support on all OS platforms ACPI Version 1.0b Power Management support (all modes)
	AGP1x/2x/4x Version 2.0 compliant including:	Sideband Addressing AGP Texturing (Execute Mode) Fast writes support
	Radeon™ 8800 GPU featuring:	275 MHz engine clock rate VGA controller 2D Engine with 128-bit datapath processing multiple pixels per clock PIXEL TAPESTRY II, 3D rendering engine utilizing 4 parallel pipelines each capable of handling up to 6 textures in a single pass, delivering 2.4 Gigatexels/s fill rate CHARISMA ENGINE II, geometry engine delivering up to 75 million transformed, clipped and lit triangles per second peak processing capability VIDEO IMMERSION II, industry leading video technology Dual independent display controllers 128-bit external frame buffer interface running at a clock rate of 300 MHz DDR provides a memory bandwidth of up to 9.6 GB per second
	Supported graphics APIs	OpenGL 1.3 ICD with immediate mode support for all OGL primitive types DirectX 8.1
	Available graphics drivers	Windows 2000 Windows XP Linux See: http://www.hp.com/workstations/support

ATI FIR GL 8800 Graphics Card display resolutions & refresh rates

SINGLE CRT DISPLAY

Resolution	Maximum Refresh Rate	Bits per Pixel
640x480	100Hz	16, 24
800x600	100Hz	16, 24
1024x768	100Hz	16, 24
1152x864	100Hz	16, 24
1280x960	100Hz	16, 24
1280x1024	100Hz	16, 24
1600x1000	100Hz	16, 24
1600x1024	100Hz	16, 24
1600x1200	100Hz	16, 24
1792x1344	85Hz	16, 24
1920x1080	100Hz	16, 24
1920x1200	100Hz	16, 24
2048x1536	75Hz	16, 24

SINGLE DIGITAL DISPLAY

Single CRT Display Resolution	Maximum Refresh Rate	Bits per Pixel
640x480	75Hz	16, 24
800x600	75Hz	16, 24
1024x768	75Hz	16, 24
1152x864	75Hz	16, 24
1280x960	75Hz	16, 24
1280x1024	75Hz	16, 24
1600x1000	75Hz	16, 24
1600x1024	75Hz	16, 24
1600x1200	75Hz	16, 24

DUAL DISPLAY

Resolution	Monitor 1 Maximum Refresh Rate	Monitor 2 Analog/Digital Maximum Refresh Rate	Bits per Pixel
640x480	100Hz	100Hz/75Hz	16, 24
800x600	100Hz	100Hz/75Hz	16, 24
1024x768	100Hz	100Hz/75Hz	16, 24
1280x1024	100Hz	85Hz/75Hz	16, 24
1600x1200	100Hz	85Hz/75Hz	16, 24

NVIDIA Quadro4 980 XGL Graphics Card

Form Factor	ATX
Graphics Controller	NVIDIA NV25GL GPU
Bus Type	AGP 8X
RAMDAC	Dual 350MHz integrated
Memory	128MB DDR SDRAM unified frame buffer, Z-buffer and Texture storage
Connectors	2 DVI-I analog/digital monitor outputs, 1 3-pin Mini DIN stereo output
Dimensions	AGP full height ATX card. 4.25 x 8.55 in (10.795 x 21.59 cm)
Multi-monitor support	Dual integrated display controllers supporting up to 1920x1440 @ 85Hz on both displays

Additional product features	• AGP8xVersion 3.0 compliant including
	  ○ Sideband Addressing
	  ○ AGP Texturing (Execute Mode)
	  ○ Fast writes support
	• 128 MB DDR SDRAM unified frame buffer, Z-buffer and Texture storage
	• 128 KB BIOS 3.3V Flash ROM reprogrammable by SW
	• NV28GL GPU featuring:
	  ○ 300 MHz engine clock rate
	  ○ 325 MHz memory clock rate
	  ○ 128-bit memory interface
	  ○ VGA controller
	  ○ 4 parallel pixel pipelines
	  ○ 2 parallel geometry engines
	  ○ nfiniteFX II programmable vertex and pixel shader technology
	• Hardware Overlay Planes
	• Hardware two-sided lighting
	• Hardware accelerated antialiased points and lines
	• Quad-buffered Stereo
	• Diamond exit rule line rasterization for improved line quality
	• 3D Texture support
	• Occlusion Culling
	• Frame synchronization
	• Compliant with Microsoft/Intel PC2001 Workstation requirements
	• Video Timings compliant with VESA DMT 1.0 and VESA GTF 1.0 specifications
	• DDC2B+ Monitor support on all OS platforms
	• ACPI Version 1.0b Power Management support (all modes)

Supported graphics APIs	OpenGL 1.3 ICD with immediate mode support for all OGL primitive types DirectX 8
Available graphics drivers	HP-tested Windows 2000 HP-tested Windows XP HP-tested Linux HP qualified drivers may be preloaded or available from the HP support Web site: http://www.hp.com/workstations/support

NVIDIA Quadro4 980 XGL Graphics Card display resolutions & refresh rates

Resolution	Monitor 1, 2 Analog/Digital Maximum Refresh Rate	Bits per Pixel
640x480	240Hz/240Hz	8, 16, 24,32
800x600	240Hz/200Hz	8, 16, 24,32
1024x768	170Hz/140Hz	8, 16, 24,32
1152x864	170Hz/100Hz	8, 16, 24,32
1280x720	150Hz/120Hz	8, 16, 24,32
1280x960	150Hz/85Hz	8, 16, 24,32
1280x1024	150Hz/75Hz	8, 16, 24,32
1600x900	120Hz/75Hz	8, 16, 24,32
1600x1024	100Hz/72Hz	8, 16, 24,32
1600x1200	120Hz/60Hz	8, 16
1600x1200	100Hz/60Hz	24,32
1920x1080	100Hz/ NoDigitalDisplaySupport	8, 16
1920x1080	85Hz/ NoDigitalDisplaySupport	24,32
1920x1200	100Hz/ NoDigitalDisplaySupport	8, 16
1920x1200	85Hz/ NoDigitalDisplaySupport	24,32
1920x1440	85Hz/ NoDigitalDisplaySupport	8, 16
1920x1440	75Hz/ NoDigitalDisplaySupport	24,32
2048x1536	75Hz/ NoDigitalDisplaySupport	8, 16
2048x1536	60Hz/ NoDigitalDisplaySupport	24,32

HP L1825 Flat Panel Monitor (Carbon/Silver)

Display Type	TFT large viewing angle
Viewable Image Size	18.1 in (45.9 cm) maximum viewable
Screen Opening (W x H)	14.2 x 11.4 in (36.2 x 28.9 cm)
Viewing Angle	160 degrees horizontal/160 degrees vertical (10:1 minimum contrast ratio)
Pixel Pitch	0.281 mm
Pixel Clock Speed	135 MHz
Brightness	250 nits (cd/m2)
Contrast Ratio	350:1 (typical
Response Rate	30 ms (typical rise + fall)
Horizontal Frequency (kHz)	30 to 82 kHz
Vertical Frequency (Hz)	56 to 75 Hz
Color Depth Support	16.7 million colors
Graphics Controller	Genesis gm5020
Factory Preset Modes	15
Graphic Preset Modes (non-interlaced)	640 x 480 @ 60 Hz, 72 Hz, 75 Hz 800 x 600 @ 56 Hz, 60 Hz, 75Hz 1024 x 768 @ 60 Hz, 75 Hz 1280 x 1024 @ 60 Hz, 75 Hz
Mac Compatible Modes	832 x 624 @ 75 Hz

(adapter required)	1152 x 870 @75 Hz	
Text Mode	720 x 400 @ 70 Hz	
VGA Mode	640 x 480 @ 60 Hz, 72 Hz	
User-Programmable Modes	15	
Anti-Glare/Anti-Static	Yes/Yes	
Asset Control	Yes (accessible on HP desktops featuring Intelligent Manageability)	
Plug and Play	Yes (supports VESA DDC2B; PC2001 compliant)	
Protective Panel	No	
Kensington Lock-ready	Yes	
Accessories Included	VGA cable, DVI-D cable	
VESA Mounting	100 mm x 100 mm screw-mounting option; pedestal is attached	
VESA External Mounting	Yes (standard 4-hole pattern, 100 mm)	
Detachable Base	Yes	
Tilt	Yes (–5° to + 35°)	
Swivel	Yes (–35° to + 35°)	
Height Adjustable	Yes (130 mm adjustment range)	
Portrait Mode Supported	Yes	
Touchscreen Option	No	
Fail Safe Mode	Yes	
Icon Based On-Screen Controls	Yes	
User Controls	Brightness, contrast	Yes
	Positioning	Yes
	Color temperature	Yes (6500k, 9300k, User)
	Individual color control	Yes
	Serial number display	Yes
	Full screen resolutions	Yes (640 x 480, 800 x 600)
	Clock	Yes
	Clock phase	Yes
	Monitor management	No
	Recall	No
	Audio recall	No
	Input selection	Yes
	Factory reset	Yes
Language Selection	English	Yes
	Spanish	Yes
	French	Yes
	German	Yes
	Simplified Chinese	Yes
	Italian	Yes
Agency Approvals/ Certifications	Australian ACA Approval	Yes
	Canadian Requirements/CSA	Yes
	CE Marking	Yes
	China CCIB/CCEE Approval	Yes
	CISPR Requirements	Yes
	Eastern European Approvals	Yes
	Energy Star Compliant	Yes
	FCC Approval	Yes

	German Ergonomic (TUV and GS Mark)	Yes
	ISO 9241-3,7,8 VDT Guidelines	Yes
	ISO 13406-2 Compliant (Pixel Defect Guidelines)	Yes
	Mexican NOM Approval	Yes
	MIC Requirements (New Zealand)	Yes
	MPR-II Compliant	Yes
	Nordic Approvals (Nemko, Fimko, Demko, Semko)	Yes
	PC2001 Compliant	Yes
	PC99 Certified	Yes
	S. Korean MIC Approval	Yes
	Taiwan BSMI Approval	Yes
	TCO 99 (emissions, ergonomics, environment)	Yes
	TUV-Ergo	Yes
	UL Listed	Yes
	VCCI Approvals	Yes
	Windows Certification	Microsoft Windows 98, Windows 2000, and Windows XP
Input Impedance	75 ohms ± 10%	
Input Signal	Two connectors: one 15-pin mini D-sub analog VGA; and one DVI-I (VGA analog or digital)	
Sync Input	Separate sync (HSYNC/VSYNC); composite sync, Sync on Green	
Power Supply ALS	Auto-ranging, 90 to 264 VAC; internal power supply, 60 Hz	
Power Rating	Maximum Mode	< 60 W
	Power Saving Mode	< 5 W
	Off Mode	< 5 W
Dimensions (H x W x D)	With stand - min height	14.8 x 15.8 x 8.2 in (37.6 x 40.2 x 20.8 cm)
	With stand - max height	19.9 x 15.8 x 8.2 in (50.6 x 40.2 x 20.8 cm)
	Without stand	13.5 x 15.8 x 2.9 in (34.2 x 40.2 x 7.3 cm)
Approximate Weight	With height-adjustable stand	22.9 lb (10.4 kg)
	Without stand	13.6 lb/6.2 kg
Temperature	Operating	32° to 95° F (0° to 35° C)
	Non-operating	-4° to 140° F (-20° to 60° C)
Humidity	Operating	20% to 80%
	Non-operating	8% to 85%
Warranty	Limited three years parts, labor, and on-site service, including backlight. Availability varies by region. Consult HP Customer Service for details.	

Compatibility

The following graphics controllers and chipsets have been tested and proven compatible for use with the hp L1825 Flat Panel Monitor.

Graphic Controllers	Compatible with "VESA Video Signal Standard (VSIS) Compliant" video cards.

NOTE: Features are subject to change without notice.

HP L1925 Flat Panel Monitor (Carbon/Silver)	**Panel**	**Type**	Thin film transistor (TFT)
		Viewable Image Area	19 in (48.25 cm) maximum viewable

	(diagonal)	
	Screen Opening (W x H)	14.9 x 11.9 in (37.8 x 30.3 cm)
	Viewing Angle (typical)	170 degrees horizontal/170 degrees vertical (10:1 minimum contrast ratio)
	Brightness (typical)	Up to 250 nits (cd/m2)
	Contrast Ratio (typical)	Up to 500:1 (typical)
	Response Rate (typical)	<20 ms (typical rise + fall)
	Pixel Pitch	0.294 mm
	Color Depth Support	16.7 million colors
Video Input	**Plug and Play**	Yes (supports VESA DDC2B; PC2001 compliant)
	Input Signal	Two connectors: one 15-pin mini D-sub analog VGA; and one DVI-I (VGA analog or digital)
	Input Impedance	75 ohms ± 2%
	Sync Input	Separate sync (HSYNC/VSYNC); composite sync, Sync on Green
	Video Cable	VGA and DVI-D
	Video Cable Length	78 in /2.0 m
Signal Interface/ Performance	**Horizontal Frequency**	30 to 82 kHz
	Vertical Frequency	56 to 75 Hz
	Graphics Controller	Pixelworks 131
	Native Resolution	1280x1024@75Hz analog 1280x 1024@60Hz digital
	Maximum Resolution (Analog)	1280x1024@75Hz analog
	Maximum Resolution (Digital)	1280x1024@75Hz analog
On Screen Display (OSD) Controls	**Preset VESA Graphic Modes** (non-interlaced)	640 x 480 @ 60 Hz, 72 Hz, 75 Hz 800 x 600 @ 60 Hz, 72 Hz, 75 Hz 1024 x 768 @ 60 Hz, 75 Hz 1280 x 1024 @ 60 Hz, 75 Hz
	Preset MAC Mode	832 x 624 @ 75 Hz 1152 x 870 @75 Hz
	Preset VGA Mode	640 x 480 @ 60 Hz, 72 Hz
	Preset SUN Mode	1152x900@66Hz
	Fail Safe Mode	Yes (limits out of range signal messages)
	Maximum Pixel Clock Speed	140 MHz
	User Programmable Modes	Yes, 10
	Anti-Glare	Yes
	Anti-Static	Yes
	AssetControl	Yes (accessible on HP/Compaq desktops featuring Intelligent Manageability)
	Default Color Temperature	Yes (6500k, 9300k, Custom User)
	Buttons or Switches	Power on/off; 4-button OSD; second level OSD buttons include auto adjust and dual-input switch
	Languages	English, Spanish, French, German, Dutch, Italian
	User Controls	Size and Positioning Contrast Brightness Clock, Clock Phase Selectable Color Temperature

		Input Selection Factory Reset Individual Color Contrast Full-screen Resolution	
Power	Power Supply	Auto-ranging, 90 to 265 VAC; internal power supply, 47.5-63 Hz	
	Input Power	100 ~ 240 VAC	
	Nominal Current	1.5 A maximum	
	Frequency	50 ~ 60 Hz	
	Average	33 watts when displaying standard office software	
	Maximum	< 40 watts	
	Power Saving	< 2 watts	
	Off Mode	< 1 watts (switch off)	
	Power Cable Length	70 in (1.8 m); non-captive	
Mechanical	Dimensions (H x W x D)	**Unpacked w/ stand minimum height**	14.8 x 16.4 x 8.2 in (39.8 x 41.6 x 20.8 cm)
		Unpacked w/ stand maximum height	20 x 16.4 x 8.2 in (50.8 x 41.6 x 20.8 cm)
		Base Area (Footprint d x w)	8.2 x 12.2 in (20.8 x 30.9 cm)
		Panel only (w/o stand) (h x w x d)	13.5 x 16.4 x 2.6 in (34.2 x 41.6 x 6.6 cm)
		Packaged	26.0 x 26.0 x 26.0 in (66.0 x 66.0 x 66.0 cm)
	Weight	**Unpacked w/ stand**	17.6 lb (8 kg)
		Unpacked w/o stand	12 lb (5.5 kg)
		Packaged	23.5 l (10.7 kg)
	Tilt Range	-5 degrees to +20 degrees	
	Swivel Range	± 45 degrees horizontal swivel	
	Height Adjustable	Yes (4.3 in/110 mm adjustment range)	
	Pivot Rotation	Yes, 90 degrees	
	Base	Ships attached and is removable after installation	
Environmental	Temperature – Operating	41° to 95° F (5° to 35° C)	
	Temperature – Non-operating	-4° to 140° F (-20° to 60° C)	
	Humidity – Operating	20% to 80%	
	Humidity – Non-operating	5% to 95%	
	Altitude – Operating	0 to 13,000 ft (0 to 4,000 meters)	
	Altitude – Non-operating	0 to 40,000 ft (0 to 12,192 meters)	
Options	PC Comm Station	Communication/audio hub that includes two stereo speakers (8 PMPO each), integrated microphone/dual function headset (phone and PC support), and USB port. Optional, part number 304251-008 (US) or P8814A (EMEA).	
Other	Accessories Included	VGA cable, DVI-D cable, user CD-ROM with Portrait software	
	User Guide Languages	English	
	Warranty Languages	English	
	Color	Carbon/Silver	
	VESA Mounting	Yes (swing arm/ wall mount not included; base is shipped attached and must be removed for mounting options)	
	VESA External Mounting	Yes (Standard 4 hole pattern, 100 mm)	

	Kensington Lock-ready	Yes
	Certification and Compliance	Australian ACA Approval, Canadian Requirements/CSA, CE Marking, China CCIB/CCEE Approval, CISPR Requirements, Eastern European Approvals, Energy Star Compliant, FCC Approval, German Ergonomic (TUV and GS Mark), ISO 9241-3,7,8 VDT Guidelines, ISO 13406-2 Compliant (Pixel Defect Guidelines), Mexican NOM Approval, MIC Requirements (New Zealand), MPR-II Compliant, Nordic Approvals (Nemko, Fimko, Demko, Semko), PC2001 Compliant, PC99 Certified, S. Korean MIC Approval, Taiwan BSMI Approval, TCO 03 (emissions, ergonomics, environment), TUV-Ergo, UL Listed, VCCI Approvals, Windows Certification
	Compatibility	VESA Video Signal Standard (VSIS) Compliant video cards have been tested and proven compatible for use with the HP Flat Panel Monitor L1925. The HP L1925 has been tested for use with Compaq Evo PCs and Thin Clients and Compaq D315 Business PCs. NOTE: Features are subject to change without notice.
	Service and Warranty	Limited three-year parts and repair labor, service provider labor, and on-site service. Next Business Day advanced exchange direct replacement service available during warranty period. Certain restrictions and exclusions apply. For details, contact HP Customer Support at 970-635-1000 (USA) or 905-206-4663 (Canada).

HP L2025 Flat Panel Monitor (Carbon/Silver)	Display Type	TFT large viewing angle
	Viewable Image Size	20.1 in (51 cm) maximum viewable
	Screen Opening (W x H)	16.2 x 22 in (41.1 x 30.9 cm)
	Viewing Angle	170 degrees horizontal/170 degrees vertical (10:1 minimum contrast ratio)
	Pixel Pitch	0.255 mm
	Pixel Clock Speed	202 MHz
	Brightness	250 nits (cd/m2) typical
	Contrast Ratio	350:1 typical
	Response Rate	25 ms typical (rise + fall)
	Color Depth Support	16.7 million colors
	Horizontal Frequency (kHz)	30 to 94 kHz (analog); 30 to 92 KHz (digital)
	Vertical Frequency (Hz)	56 to 85 Hz
	Graphics Controller	Pixelworks PW171
	Factory Preset Modes	18
	Graphic Preset Modes (non-interlaced)	1600 x 1200 @ 60 Hz, 75 Hz 1280 x 1024 @ 60 Hz, 75Hz, 85 Hz 1280 x 960 @ 60 Hz 1152 x 900 @ 66 Hz 1024 x 768 @ 60 Hz, 75 Hz, 85 Hz 800 x 600 @ 60 Hz, 85Hz 640 x 480 @ 60 Hz, 75 Hz
	Mac Compatible Modes (adapter required)	832 x 624 @ 75 Hz 1152 x 870 @ 75 Hz
	Text Mode	720 x 400 @ 70 Hz
	VGA Mode	640 x 480 @ 60 Hz
	User-Programmable Modes	18
	Anti-Glare/Anti-Static	Yes/Yes
	Asset Control	Yes (accessible on HP desktops featuring Intelligent Manageability)
	Plug and Play	Yes
	Kensington Lock-ready	Yes
	Accessories Included	VGA cable, DVI-D cable
	Protective Panel	No

VESA Mounting	100 mm x 100 mm screw-mounting option; pedestal is attached	
VESA External Mounting	Yes (Standard 4 hole pattern, 100 mm)	
Portrait Mode Supported	No	
Touchscreen Option	No	
Detachable Base	Yes	
Tilt	Yes (–5° to + 35°)	
Swivel	Yes (–35° to + 35°)	
Height Adjustable	Yes (130 mm adjustment range)	
Fail Safe Mode	Yes	
Icon Based On-Screen Controls	Yes	
User Controls	Brightness, contrast	Yes
	Positioning	Yes
	Color temperature	Yes (6500k, 9300k, User)
	Individual color control	Yes
	Serial number display	Yes
	Full screen resolutions	Yes (640 x 480, 800 x 600)
	Clock	Yes
	Clock phase	Yes
	Monitor management	No
	Recall	No
	Audio recall	No
	Video PIP	Yes (size and position)
	Input selection	Yes (includes separate direct access key for dedicated swap between inputs 1 and 2)
	Factory reset	Yes
Language Selection	English	Yes
	Spanish	Yes
	French	Yes
	German	Yes
	Simplified Chinese	Yes
	Italian	Yes
Agency Approvals/ Certifications	Australian ACA Approval	Yes
	Canadian Requirements/CSA	Yes
	CE Marking	Yes
	China CCIB/CCEE Approval	Yes
	CISPR Requirements	Yes
	Eastern European Approvals	Yes
	Energy Star Compliant	Yes
	FCC Approval	Yes
	German Ergonomic (TUV and GS Mark)	Yes
	ISO 9241-3,7,8 VDT Guidelines	Yes
	ISO 13406-2 Compliant (Pixel Defect Guidelines)	Yes
	Mexican NOM Approval	Yes
	MIC Requirements (New Zealand)	Yes

	MPR-II Compliant	Yes
	Nordic Approvals (Nemko, Fimko, Demko, Semko)	Yes
	PC2001 Compliant	Yes
	PC99 Certified	Yes
	S. Korean MIC Approval	Yes
	Taiwan BSMI Approval	Yes
	TCO 99 (emissions, ergonomics, environment)	Yes
	TUV-Ergo	Yes
	UL Listed	Yes
	VCCI Approvals	Yes
	Windows Certification	Microsoft Windows 98, Windows 2000, and Windows XP
Input Impedance	75 ohms ± 10%	
Input Signal	Four connectors, including one 15-pin mini D-sub VGA; one DVI-I (VGA analog and digital input), one composite video, and one s-video	
Sync Input	Separate sync (HSYNC/VSYNC); composite sync, Sync on Green	
Power Supply ALS	Auto-Ranging, 90 to 264 VAC; internal power supply, 60 Hz	
Power Rating	Maximum Mode	< 70 W
	Power Saving Mode	< 5 W
	Off Mode	< 5 W
Dimensions (H x W x D)	With stand - min height	16.3 x 19.2 x 8.2 in (41.4 x 48.8 x 20.8 cm)
	With stand - max height	21.4 x 19.2 x 8.2 in (54.4 x 48.8 x 20.8 cm)
	Without stand	16.1 x 19.2 x 3.0 in (40.8 x 48.8 x 7.6 cm)
Approximate Weight	With height-adjustable stand	26.4 lb (12 kg)
	Without stand	17.2 lb (7.8 kg)
Temperature	Operating	46° to 95° F (10° to 35° C)
	Non-operating	6° to 140° F (-10° to 60° C)
Humidity	Operating	20% to 80%
	Non-operating	5% to 85%
Warranty	Three-year limited warranty parts, including backlight and on-site labor or 48 hour direct unit replacement. Certain restrictions apply. Some terms vary depending on sales region. Consult HP Customer Service for details.	

Compatibility

The following graphics controllers and chipsets have been tested and proven compatible for use with the HP L2025 Flat Panel Monitor.

Graphic Controllers Compatible with "VESA Video Signal Standard (VSIS) Compliant" video cards.

NOTE: Features are subject to change without notice.

HP p930 CRT Monitor (Carbon/Silver)	**Tube Type**	Diamondtron Natural Flat (NF) aperture grille tube; anti-reflection, anti-static
	Picture Tube Size (diagonal)	19 in (48.26 cm)
	Viewable Image Area (diagonal)	18 in (45.72 cm)
	Aperture Grille Pitch	0.24 mm
	Horizontal Frequency (kHz)	30 to 110 kHz
	Vertical Frequency (Hz)	50 to 160 Hz
	Maximum Resolution	1920 x 1440 @ 60 Hz

Preferred Flicker Free Resolution	1280 x 1024 @ 85 Hz	
Preset Graphic Modes (non-interlaced)	1600 x 1200 @ 85 Hz and 75 Hz 1280 x 1024 @ 85 Hz and 75 Hz 1024 x 768 @ 85 Hz 800 x 600 @ 85 Hz 640 x 480 @ 85 Hz and 60 Hz 720 x 400 @ 70 Hz	
User-Modes	Yes, 8 modes	
Anti-Glare/Anti-Static	Yes/Yes	
Asset Control	Yes	
Plug and Play	VESA DDC2B; PC2001 compliant	
Front Panel User Controls	Power on/off; menu button; 4 OSD adjustment buttons; OSD exit button, information button	
On-Screen User Controls	Brightness, contrast	Yes
	Size and Positioning	Yes
	Pincushion (barrel)	Yes
	Trapezoid	Yes
	Moiré Correction	Yes
	Tilt (rotation)	Yes
	Selectable Color Temperature	Yes
	Factory Reset/Recall	Yes
	Orthogonality	Yes
	Current Display Mode	Yes
	Degauss	Yes
	Convergence	Yes
Approvals/ Certifications	UL/CSA/CUL Approval	Yes
	ISO9241-3, -7, -8 VDT Guidelines Approval	Yes
	MPR-II Compliant	Yes
	TCO '99	Yes
	FCC Approval	Yes
	Microsoft WHQL Certified	Yes
	Energy Star Compliant	Yes
	CE Compliant	Yes
Signal Cable	Attached 15-pin D-sub connector, 5.9 ft/1.8 m	
Maximum Pixel Clock Speed	290 MHz	
Power Supply	Universal; 100–240 V (auto-ranging), 50–60 Hz	
Maximum Power Rating	= 120 watts	
Low Power Sleep Mode	< 3 watts	
Off Mode	0 watts	
Dimensions (H x W x D)	Unpacked	18.8 x 18.5 x 18.5 in (47.6 x 46.9 x 46.9 cm)
	Packaged	22.0 x 22.3 x 22.8 in (55.9 x 56.5 x 57.8 cm)
Weight	Unpacked	55 lb (24.9 kg)
	Packaged	61 lb (27.7 kg)
Tilt/Swivel Base	-5 to + 10 degrees vertical tilt; ± 45 degrees horizontal swivel	
Operating Temperature	50° to 95° F (10° to 35° C) non-condensing	
Operating Humidity	20% to 80% non-condensing	
Warranty	Limited three-year parts and repair labor, three-year service provider labor, and three-year	

on-site service warranty. Next Business Day advanced exchange direct replacement service available during warranty period. Certain restrictions and exclusions apply. For details, contact HP Customer Support at 970-635-1000 (USA) or 905-206-4663 (Canada).

HP p1130 CRT Monitor (Carbon/Silver)	Tube Type	FD Trinitron aperture grille tube	
	Picture Tube Size (diagonal)	21 in (53.3 cm)	
	Viewable Image Area (diagonal)	19.8 in (50.3 cm)	
	Aperture Grille Pitch	0.24 mm	
	Horizontal Frequency (kHz)	30 to 130 kHz	
	Vertical Frequency (Hz)	50 to 170 Hz	
	Maximum Resolution	2048 x 1536 @ 75Hz	
	Maximum Pixel Clock Speed	< 370 MHz	
	Preferred Flicker Free Resolution	1920 x 1440 @ 85 Hz	
	Preset Graphic Modes (non-interlaced)	1920 x 1440 @85Hz 1800 x 1440 @80Hz 1600 x 1200 @75, 85Hz 1280 x 1024 @75, 85Hz 1024 x 768 @75, 85Hz 800 x 600 @75, 85Hz 640 x 480 @65, 75 and 85Hz 640 x 400 @ 70Hz	
	User-Modes	8 preset modes and 10 additional modes	
	Anti-Glare/Anti-Static	Yes/Yes	
	Asset Control	Yes	
	Front Panel User Controls	Power on/off switch; 5-button OSD; dual-input switch	
	Languages	Nine	English, French, German, Spanish, Italian, Dutch, Swedish, Russian, Japanese
	On-Screen User Controls	Size and Positioning	Yes
		Contrast	Yes
		Brightness	Yes
		Moiré Correction	Yes
		Tilt (rotation)	Yes
		Selectable Color temperature	Yes
		Orthogonality	Yes
		Degauss	Yes (automatic at power on; manual)
		Convergence (h/v/pre-set)	Yes
		Reset	Yes
	Approvals/ Certifications	UL/CSA/CUL Approval	Yes
		ISO9241-3, -7, -8 VDT Guidelines Approval	Yes
		MPR-II Compliant	Yes
		TCO '99	Yes
		FCC Approval	Yes
		Microsoft WHQL Certified	Yes
		Energy Star Compliant	Yes
		CE Compliant	Yes

Plug and Play	VESA DDC2Bi and DDC2B. PC2001 compliant	
Dual Input	Yes, two 15-pin D-sub connections	
Signal Cable	Detachable 15-pin D-sub mini connector	
Power Supply	Universal; 100–240 V (auto-ranging), 50–60 Hz	
Maximum Power Rating	135 watts	
Low Power Sleep Mode	< 3 watts	
Off Mode	0 watts	
Dimensions (H x W x D)	Unpacked	19.7 x 19.6 x 19.3 in (50.2 x 49.7 x 49.0 cm)
	Packaged	26.0 x 26.0 x 26.0 in (66.0 x 66.0 x 66.0 cm)
Weight	Unpacked	67.2 lb (30.5 kg)
	Packaged	72.5 lb (32.9 kg)
Tilt/Swivel Base	-5 to + 15 degrees vertical tilt; ± 45 degrees horizontal swivel	
Operating Temperature	Non-condensing	50° to 104° F (10° to 40° C)
Operating Humidity	Non-condensing	10% to 80%
Altitude	Operating	0 to 13,000 ft (0 to 4,000 m)
	Non-Operating	0 to 50,000 ft (0 to 15,250 m)
Warranty	Limited three-year parts and repair labor, three-year service provider labor, and three-year on-site service warranty. Next Business Day advanced exchange direct replacement service available during warranty period. Certain restrictions and exclusions apply. For details, contact HP Customer Support at 970-635-1000 (USA) or 905-206-4663 (Canada).	

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